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ORIGINAL ARTICLES.

NOTES ON A FEW CASES IN WHICH THE ELECTRO-STATIC REMEDY WAS USED.

Read before the Medical Society of the District of Columbia, February 1, 1888.

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My apology for naming static electricity in connection with the desultory remarks about to follow, must be the fact that the use of Franklinism in neurological therapeutics is comparatively recent, and that the physicians of Washington have not given the subject the attention it merits. The simple reason for this neglect is that no one skilled in the use of the more perfected machines has yet brought the matter before this body in such a manner as to elicit discussion.

More than one medical man has said to me: "Oh, I don't believe in electricity, I have tried it and can get no results." Further conversation revealed the fact that these skeptics had, to say the least, but cloudy notions of the difference between a galvanic and a faradic battery; they had never heard of a differential calorimeter, and static electricity was to them a sealed book. My remarks may not accrue to the delectation or benefit of such a grade of development; for it is one not likely to make a correct interpretation of any medical fact, and it would be an insult to your intelligence to presume for a moment that any of you are so lacking in this regard, or that most of you are unfamiliar with the current literature of static electricity, more particularly as it has appeared in the journals for the last few years.

My attention was first directed to this subject while pursuing a neurological course under the tuition of Prof. William A. Hammond, when my friend Dr. W. J. Morton, of New York, kindly gave me the benefit of an experience that was subsequently extended at the Post-Graduate Medical School. Dr. Morton's admirable paper, read before the Academy of Medicine not long ago, is a great advance and development of the ideas of Franklin, and it did much to give vogue and therapeutical standing to this valuable agent. Since then numerous writers and experimenters have taken up static electricity. The style of machine—formerly so defective in construction as to bring this form of electricity into disrepute—has now been so far improved and perfected as to secure the maximum of tension and quantity, and at the same time the machines are so little hygroscopic as to work in all conditions of the atmosphere. As I do not wish to occupy time and attention by further reference to details that are doubtless familiar to you, I shall confine myself to the brief mention of a few cases selected at random from a considerable number that I have treated; and if the comments thereon should appear rambling and disconnected, I must anticipate the criticism with the excuse that I have merely noted the thoughts that were uppermost and most engrossed my attention at the time the cases were under observation.

Those mentioned in the first group are recitals of failure. It may not be pleasant to record one's failures; but in the interest of truth and wisdom it must be done, since the interpretation of a negative is often more instructive than that of a positive result.

In September, 1885, there came under my notice a man of 38, who during five years had been treated for rheumatism, impaired eyesight, and general debility. The symptoms were first noticed in China, where his tabetic walk often subjected him to the imputation of being drunk, though perfectly sober. He complained of sharp darting pains, from the small of his back to the soles of his feet, in which were sharp tingling pains and a feeling as if the toes were too large for his shoes; of a sense of tightness around the waist; of dizziness; of trouble with his throat, and occasional spells of vomiting. The patient had a history of syphilis, and his alcoholic and nicotinic habits were bad.

There were no objective manifestations of rheumatism; but the patient was unable, on closing his eyes, to touch designated points of his body with the index finger, or to stand or walk without staggering, and the knee-jerk was absent. In brief, he showed the typical sensory, motor, and cerebroscopic signs of that form of dorsal tabes generally known as progressive locomotor ataxy.

Treatment availed but little in this case, and the patient went on from bad to worse.

The same may be said of a case of antero-lateral sclerosis which was left under my care in August, 1886, for a month, during the temporary absence of another physician. In this case the symptoms, both sensory and motor, were most apparent in the lower extremities, being manifested by exaggeration of the patellar tendon reflex, the presence of ankle clonus, and vesical and rectal disturbance.

Negative results were also obtained in the case of

a woman of middle age, who consulted me in February, 1887, and who for several years had suffered from the effects of an obliteration of one of the cerebral arteries, one of the results being left hemiplegia.

Another patient, past the meridian of life rather from physiological than chronological cause, and suffering from impotency, was taken in hand on February 23, 1887. After a month's treatment he was not materially improved.

On October 4, 1886, I began the use of static electricity in a case of ovarian insanity. After a month's treatment I was obliged to admit to the patient's friends that I could do her no good.

In a case of religious melancholia in a young unmarried woman, who came under my care in December, 1886, I also used the static current. She ultimately recovered; but I attribute the cure rather to the means taken to improve her general health and to removal of the constipation and menstrual irregularity from which she suffered.

For fear that further recitals of the foregoing character may convey the impression that failure is coextensive with success in the matter under consideration, I will now mention a few other cases in which the results of treatment were of a happier nature:

In March, 1887, I was consulted by a delicate woman, the mother of a family. She had passed the period of the menopause, but complained much of her general health and of insomnia. Her principal trouble was a disturbance of the thermogenic function, the sensation of cold in the extremities being so severe at night that she was obliged to resort to various artificial means in order to bring about sleep.

This sensation in reality was not accompanied by loss of heat, the symptom being purely subjective, and one of exaggerated sensibility to cold owing to inability on the part of the nervous system to make an instinctive comparison between two mesological conditions; or, in other words, a disturbance of the thermic sensibility. Even in a state of health an inability to make a correct comparison of this kind, as we know, gives rise to the incongruity existing between heat and cold as experienced by the human body and the actual temperature as revealed by the thermometer. Travelers and experimenters having often noticed that these sensations are not absolute, it is proposed to differentiate the phenomena as physical cold and physiological cold, the former indicating that revealed by the thermometer or calorimeter, the latter that of a purely subjective nature and not indicated by instruments.

If not straying too far away from my subject, I shall ask your indulgence to relate some personal experiences in which these relative sensations were observed by me in different latitudes. On a polar voyage to the Siberian Arctic in the middle of July, I have seen the decks covered with snow and hail, that was accompanied by a bitter cold wind that penetrated one's winter clothing, and a few days afterwards, when the thermometer registered but 45 F., the heat was extremely uncomfortable. Again, in the latter part of June at St. Michael's, Alaska, the sun was almost overpowering, although the thermometer registered but 60° F. In striking opposition to this is the piercing cold that I have experienced on being exposed to a "Levanter" in the vicinity of the Mediterranean Straits off the coast of Morocco, and to Texas northers, during the continuance of which the cold is felt more acutely than it would be in the Arctic regions. This phenomenon is also noticed among the Andes in Peru. A disagreeable sensation of cold not indicated by the thermometer is one of the experiences of travelers in that part of the world, the cold being keen and penetrating with the mercury standing at only 60°.

Numerous instances might be cited in which Arctic travelers have noted such relative sensations, as well as the impunity with which they have exposed themselves to a low temperature that would be attended by serious results in a more southern latitude. After supporting cold of — 47° F. the sensation of — 29° or 24° is an agreeable one. Dr. Hayes relates that in Greenland he went swimming in a pool of water on the top of an iceberg. The captain of a New Bedford whaler has often gone swimming off the coast of Siberia. On one of the physiologically warm days that sometimes occur in high latitudes, I plunged in the icy waters of Kotzebue Sound, and after the momentary sideration that accompanied the shock had passed away there was no great discomfort. The swim was, moreover, followed by a pleasurable reaction.

The physiological action of cold upon the nervous system deserves a more prominent place, since it is through the nervous system that results the instinctive comparison of heat and cold. Moreover, sensation as regards cold is not always accompanied by loss of heat. That it may be purely subjective, not only in disease but in health, it is the object of this digression to set forth.[1]

The second case coming under my observation in which there was a more marked subjective sensation of cold unattended by any objective manifestation, was that of a neurasthenic theological student who complained of a feeling of icy coldness in the right hand and lower half of arm. Why such a sensation should exist without the appreciable subtraction of heat I am at a loss to explain. In the human species the sensation caused by the absence, loss, or diminution of the mode of motion known as heat does not follow the oscillations of the exterior temperature as a grapevine or a marmot; but is dependent upon the state of the organism and other individual conditions. A common instance of this condition is seen in the cold stage of intermittent fever, which shows an elevation of temperature much above the normal, not only during but preceding the appearance of the chill. The sensation of cold in other cases is not produced, in spite of real and progressive cooling of the body, such as is noticeable in the algid attack of pernicious fever or the lowering of temperature during the sensation of heat that accompanies the reactive stage of a cold bath. On the other hand, in locomotor ataxy with greatly diminished sensibility, patients have been known to be unable to wash in

[1] See writer's article on Cold in the Reference Handbook of the Medical Sciences.

cold water without experiencing the keenest pain, and subsequent discomfort. Sometimes in myelitis a piece of ice placed on the skin of the trunk causes a disagreeable burning sensation. I know of a case of neuritis in which the application of hot water produced a sensation of cold. Most of us know of the subjective chilliness following doses of aconitia. An abolishment of the sense of cold occurs in some swimmers accustomed to passing long hours in the water; and the mind also makes the body less sensible, as in the case of ecstatic thoughts, lively emotions, or derangement. Familiar instances occur in religious devotees; in delicate women who, through vanity, forget their habitual sensibility to cold and expose the neck and shoulders to freezing temperatures; and in the insane, who often go stark naked in winter without being affected by the cold.

I shall leave it to others to trace the relativity of the foregoing remarks with the cases in question; and will state that the perverted thermic sensations were promptly relieved by no other treatment than that of the electro-static remedy, the immediate effect of which was to cause increased sensation of heat and slight diaphoresis when applied by insulation and sparks.

Other cases in which static electricity acts with a promptness not procurable by any other remedy are those of myalgia, subacute or chronic rheumatism, gout, and inflammation of the neurilemma of the sciatic nerve. I have in mind numerous cases of what are popularly known as stiff neck, crick in the shoulder, and lumbago, all of which promptly disappeared after one or more applications. The patients in all these instances attributed the origin of their malady to cold; the morbific influence of which, by the way, is greatly exaggerated not only by the laity but by physicians themselves, who attribute so many ailments to this cause that to enumerate them would almost be to repeat the nosological table. Many morbid conditions are attributed to cold in which this agent in reality takes no part or is only an accessory. Many old and even some contemporary authors rank under the head of maladies from cold such general diathetic diseases as gout and rheumatism, and speak of the latter as a prominent disease of cold countries; when, as a matter of fact, rheumatism belongs rather to temperate climates, being met with in India and Egypt, but not in the polar regions. The returns of the English Army, which is stationed nearly all over the globe, show the truth of this assertion. Take a single instance: At Nova Scotia a proportion of 30 cases of rheumatism to the 1,000 occurred; while under the more temperate climate of the Cape of Good Hope there were 57 in the 1,000. On two successive voyages to the Siberian Arctic I have not met with a single case of bronchitis or rheumatism, or even a common cold except among Eskimo—who, by the way, appear not to stand cold so well as white men. During the last few years circumpolar parties have escaped all sickness, and sledging expeditions have been exposed to continuous cold of —50° with no great inconvenience. That cold does occasionally provoke an attack of one of the forementioned diseases may be admitted, but to speak of it as a pathogenic cause is just as absurd as to say that cold causes typhus and scurvy, or cirrhosis of the liver and chronic nephritis. As a cause of disease or of death cold no doubt brings us into the presence of a great number of affections, yet we may eliminate many diseases, the origin of which is improperly attributed to the effects of cold upon the organism, this agent in truth being only an indirect or quite accessory fact.

A circumstance that sometimes arises in connection with the application of electricity is one concerning the doubts and fears of patients with heart trouble. This feeling seems to be inspired through the popular mistake that they are to be shocked, or have a thunderbolt hurled at them. An illustrative observation is that of a matronly person who consulted me in August, 1886. She was anæmic and neurasthenic, and had the cardiac symptoms usual to such conditions. A short stay at a Southern seaside resort had proved of no benefit, and she had been particularly counseled by her physician to avoid sea-bathing and electricity. After two weeks' treatment I allowed my patient to go to Atlantic City, with instructions to take a dip in the surf of a minute only at the first bath, and gradually prolong the time a few minutes each day. My directions being faithfully carried out, inured to the ultimate benefit of the patient, who stated on her return that she had not felt so well for years. At present her health is such that she has nothing to complain of.

Every physician knows how tedious and difficult, and barren in results, is the treatment of copodycinesia—an affection that appears to be more observed of late than formerly. We now find it as one of the common neural disorders in artisans of various classes, such as the hæphestic palsy of boiler-makers, the "loss of grip" of telegraph operators, and the affection known as "Charlie horse" among professional base-ball players. I have also lately seen a case in a woman whose occupation for a number of years has been counting greenbacks in the Treasury Department. Another case worthy of mention is one in which the disorder was most apparent in the muscles concerned in writing. It occurred in an adult male whose vocation necessitated a sedentary and monotonous life. The treatment, begun January 23, consisted of daily applications of electricity by insulation and sparks, relaxation from work, and a Sunday ramble in the country. On March 4 he was discharged cured.

I now finally call your attention to a case of paraplegia that I have treated with the happiest result. It is that of a man of 51, who was brought to my office in a rolling chair in May, 1886. He stated that he had been paralyzed from the small of his back downwards for more than a year; that formerly he suffered from severe pains in the limbs, but at present slept well and enjoyed a good appetite, although suffering from constipation and occasional difficulty in evacuating the contents of his bladder.

The patient's general history was good, but having been a soldier in the late "unpleasantness," he had an attack of dengue fever in 1863, and suffered subsequent privation as a prisoner of war, which left him

with what was supposed to be sciatica and rheumatism.

On examination I could find no outward, visible or tangible manifestation of rheumatism, and no appreciable cardiac lesion, the heart's action being normal and but slightly excited.

I immediately applied the actual cautery to the lower dorsal spine, and continued the treatment by drawing long sparks from the back and paralyzed limbs. Rapid improvement took place. The patient now walks without lameness and is, in fact, well. He has been good enough to come here this evening, and I shall show him to you presently.

If I chose to incur additional risk of being tedious, these remarks might be prolonged by further reference to considerations of a therapeutic, physiological and mechanical character; but this is not the time or place for a more extended exposition. I may, however, add that former objections to statical electricity have been done away with, owing to the construction of superior machines in which the tension and quantity are within the control of the operator. The one that I use consists of six 26-inch plates driven by a Tuerk water motor. It does all the work of the best Faradic machines, and is more serviceable than ordinary galvanism. Removal of the patient's clothing is unnecessary, and the current may be so regulated as to range from an agreeable sensation or an almost imperceptible tingle up to extreme muscular contraction.

The manner of applying is by insulation, sparks, shocks, and the induced current. The patient being placed upon a tabaret and electrified, a difference of potential takes place, his body being raised one potential higher than that of the earth, which is zero. By means of an umbrella electrode an equalization of potentials is provoked, giving the effect of *spray* or *electric wind;* and if an electrode be approached or placed in contact with the patient's body, a more vigorous equalization takes place, manifesting itself in the form of sparks, which become more violent as the patient's potential is increased. The application of the statical induction current to the human body with physiological results is among the latest novelties, and the nerve and muscle reactions produced thereby are now admitted by all physicians and electrical experts. It is difficult to tell just what the ultimate molecular disturbance is that takes place in the cure of the myriad manifestations of hysteria, nervous exhaustion and hyperæsthesia when statical electricity is used. Every physician knows how common and how perplexing such cases are. But if, at the right moment, the proper agent is applied, we get a result that forces upon us the conviction that static electricity has therapeutic effects peculiarly its own; and it is no figure of speech to say that the lightning which Franklin drew down from the heavens has become the physician's most useful handmaid.

1732 II. St., N. W.

MERCURY IN BLOCK-TIN.—A large mortality among workmen in a tin smelting place in Nuremberg caused an investigation, which showed that the block-tin contained 3 per cent. of mercury.

SOME POINTS IN THE MANAGEMENT OF TYPHOID FEVER.

Read to the Thirty-first Annual Meeting of the Missouri State Med. Association, Kansas City, Mo., April 19, 1888.

BY I. N. LOVE, M.D.,
ST. LOUIS, MO.

I shall not fatigue this body with a labored paper on typhoid fever, giving in detail its history, etiology, clinical characteristics, etc., for being, as you are, busy workers in the profession, you are in no need of an exhaustive and exhausting elaboration of the subject. I feel safe in taking it for granted that you are all familiar with the literature.

Through the researches of Koch, Eberth, Meyer, Friedländer, Gaffky, and later of Fränkel and Simonds, the typhoid bacillus has become an entity that must not (and cannot safely) be lost sight of during the progress of a case and after its termination.

The points I propose to present are the result of observations made in hospital and private practice during the past sixteen years, some of them being more particularly emphasized during a series of cases occurring within the past six months.

I think we are too much inclined to be on the lookout for classical representations of this disease, as of many others. I have had a number that I placidly considered simple continued fever; temperature not ranging higher than from 101° to 103°, no rose spots, no tympanites, no special evidence of intestinal irritation, nothing leading me to suspect typhoid fever until suddenly aroused to an appreciation of the fact by dangerous and repeated hæmorrhages from the bowel, and in one instance (in 1877) the bleeding continued until it proved fatal. This occurred in a boy of six, and was convincing proof to me of the fallaciousness of the idea that formerly obtained, that young children were not susceptible to the malady. In this connection, I recall the circumstance of a consultation visit made to a young man who had been ailing for some weeks, though he was up and about until a few minutes before the family physician was summoned and found him suffering great agony. An investigation developed an intestinal perforation, which caused death in a short time. The clinical history and the post-mortem revelations evidenced an illustration of "walking typhoid fever."

We know that we frequently have scarlet fever so mild as to be entirely overlooked, until the attention is aroused by grave nephritic trouble; and so in all diseases, the artistically perfect specimen is the exception and not the rule.

It has, no doubt, been the observation of all, that the course and complications of typhoid fever are as varied as the individual victims, but it was not recognized till lately (by Griesinger) that numerous light and rudimentary attacks (typhus levissimus) belonged to typhoid fever at all; they used to have all sorts of names applied to them, as suggested by Strümpel, the favorite being "gastric fever."

The diagnosis is of course difficult in proportion to the scanty development of typhoid symptoms,

and it is best established by demonstrating an etiological relation between them and others that are plainly typhoid fever. Apropos to this mild class of cases, I remember a case under my observation last December, a five year old boy, in a family where three other cases developed, (one fatal) of a violent character; the child was sick only about twenty-one days, and under ordinary circumstances his case would have been diagnosticated simple continued, or remittent fever.

As the individual manifestations may vary, so, too, do entire epidemics. One season the type is violent, and another mild. During the past six or eight months I have had under my care an unusual number of typhoid fevers, and these, together with nearly all that I have observed for two or three years past, have been much more favorable in their results, due possibly more to the mildness of the infection than to the character of the treatment, though I am persuaded that the latter had something to do with the favorable showing.

Since about July 21, 1887, I have kept a record of 36 cases, and of that number 2 died—of those one really died of acute mania superinduced during the period of convalescence by sudden shock and grave domestic sorrow, she being a nursing mother, of intensely neurotic temperament—the other was a delicate, over-worked girl of 16 years, with tubercular diathesis, and sick for ten days before a physician was called, she having been six days and nights without sleep, and in fact died from meningitis as a complication.

There are those who believe that, by active interference, typhoid fever may be aborted; though I am not ready to endorse this proposition, I am sure it may be modified and abreviated. I cite briefly the following as an illustration: July 21, 1887, J. T. C., taken with violent vomiting and intense abdominal pain; examination revealed a lusty, plethoric youth of 18, red tongue heavily coated, pulse full and 140 a minute, temperature 105.5°, acute tenderness over abdomen, with constipation. Remedies were ordered for opening the bowels, soothing the stomach, and reducing temperature. After the lapse of twelve hours an action of the bowels had been secured, but no improvement of the general conditions. At once ordered 1 gr. of calomel every hour, and the application of ten leeches over stomach and the ileo-cæcal region, at point of greatest tenderness, followed by hot fomentations. The leeches abstracted five or six ounces of blood, giving marked relief; at the end of ten hours the 10 grains of calomel had produced active purgation, and this, together with the local abstraction of blood, had mitigated all the symptoms; the temperature was down to 102°, the pain and tenderness almost gone, no nausea, no vomiting. The patient was in every way more comfortable, and jogged along for four weeks with a mild form of typhoid fever instead of dying during the first five or ten days, as I believe he would have done had a temporizing course been pursued.

Recognizing the disease as an infectious one dependant upon a specific virus, it behooves us to treat it upon the antiseptic plan, aiding elimination by stimulating the excretory organs, sustaining the strength by diffuse stimulation at the proper time, and the furnishment of an abundance of nutrition in a form for prompt assimilation.

Since the introduction of antipyrin, the dangers of high temperature are much less than formerly, as we can certainly control that feature; however, I favor the very careful administration of the drug, until full opportunity is given for the ascertainment of susceptibility. There have been recorded already a number of unfavorable results, even death itself, owing to some peculiar idiosyncracy. I prefer small doses (5–10 grains to adults) at short intervals, keeping up the effect continuously, rather than large doses, and sudden and excessive falls of temperature. I think a sudden reduction, no matter how obtained, is not so likely to be maintained; sudden reductions are depressing, and endanger heart-failure, and prompt return elevation. While antipyrin is of great value as a febrifuge and tranquilizer of the nervous system, and at the same time diaphoretic, I feel that in the cooling bath we have an agent equally or even more valuable. By cooling bath I do not mean the sudden immersion in cold water; that is uncalled for, undesirable, and brutal. The temperature of the water at first should be about the same as that of the patient, and may be gradually reduced down to 85° or 80°. The bath may be prolonged five or ten minutes. I doubt not you have all seen, as I have, patients wildly delirious, go calmly to sleep during the progress of the bathing. The advantages of the bath, I take it, are:

1. The reduction of temperature is accomplished gradually and comfortably to the patient in accordance with nature's plan of putting out fire by water.

2. The water acts primarily as a soother of the peripheral nerves, and secondarily calms the disturbed nerve centres.

3. It stimulates the secretory glands, allays thirst by being directly absorbed into the heated and dry tissues, hungering and eager for drink; encourages diaphoresis as well as diuresis.

4. It influences favorably the respiratory organs by energizing inspiration; and thus aids in the securement of expectoration, and as a result, bronchial complications are less frequent.

5. The hygienic effect upon the skin is of great value, removing, as it does, the foul-smelling products of the sweat and sebaceous glands, aiding in the procurement of strength and elasticity to the cutaneous and adjacent tissues, conditions antagonistic to bed-sores.

Of course it goes without saying that the bath should be administered with due regard to the comfort of the patient; drafts should be avoided, and immediately following the bath a thorough drying and brisk rubbing should be instituted, and warm covering, with hot water bag to the feet if need be, and a nice cup of hot broth or a little wine or toddy would be in order.

I think antipyrin and bathing or sponging may be used conjointly to good advantage. As an antipyretic, quinine should be ruled out altogether; in

doses sufficiently large to reduce temperature it is demoralizing to the nervous system as well as to the digestive tract, and when we recall the fact that the sheet-anchor of hope in typhoid fever consists in good digestion and nutrition, and tranquil nerves, we can see that the objection to quinine is well founded. If well-defined malaria presents itself, as a complication, an antiperiodic is of course indicated, and quinine should be given, but very carefully.

In this connection permit me to express the opinion that the so-called typho-malarial fever of Woodward is a misnomer, being probably nothing more than a modified expression of typhoid fever plus malaria. Certainly the coining of new names for every modification of a disease is confusing, and the practice should receive no encouragement.

What has been said above need not be interpreted as an objection to the use of tonic doses of quinine during the period of convalescence, but as against the administration of quinine to an unadulterated case of typhoid fever. In the earlier, middle, or later stages of the disease, there may come a time when the necessity of the situation demands the removal of the patient from one section of the country to another; I desire to place myself on record as being strong in the opinion that the danger of removing a person seriously sick has been much overrated; that with due care and a guarding against the chilling of the surfaces, and the interruption of the proper amount of sleep, typhoid fever and other dangerous cases may be safely transported hundreds of miles. I have a record of four cases successfully and advantageously removed from one hundred to one thousand miles on sleeping cars, which justify this conclusion.

As the administration of the calomel purge in the beginning is satisfactory, so the renewal of 1/8 grain doses every other day, to the number of a half dozen, is an advantage in the direction of keeping the bowels open, as well as serving as an intestinal antiseptic. If an additional aid is required to evacuate the bowels, an enema of a teaspoonful of glycerin will be efficient. *En passant*, I desire to emphasize the value of one dram injections of warm glycerin (as suggested by Anacker) into the bowel as a ready means of securing a prompt evacuation.

Permit me to emphasize the most salient points I desire to make by summarizing as follows:

1. Typhoid fever varies in intensity, severity, and length of attack, as do other infectious diseases, and while it has not yet been established that any of this class can be aborted, yet typhoid, with all the others, may be mitigated and abreviated, and unfortunate complications and sequelæ prevented.

2. To the securement of this end I think that which is of paramount importance, is management, rather than medication, though there are many dangers that can only be tided over by the prompt and proper exhibition of drugs.

3. The administration of remedies that are antiseptic and stimulate the excretory organs is important, and for this purpose small doses (1/10 grain) of bichloride, or the mild chloride (1/8 to 1/4 grain), as often as is necessary to produce an effect, is of value.

4. Nutrition, by the administration of food in a form for prompt assimilation, is a necessity, and to this end the diet should be limited to peptonized milk, beef peptones (Rose's), bovinine (Bush), etc., bearing in mind that the stereotyped home-made beef tea is of no more value as a food than a weak toddy, being a mild stimulant, and nothing more.

5. Freedom from pain, tranquility, and perfect rest should be insisted upon, and remembering that this disease of all others has a wrecking effect upon the nervous system (it having been called by some German writers fieber nervöse, or nervous fever), we should see to it that our patient obtains not less than twelve to sixteen hours sleep out of the twenty-four, and the remainder of the time be saved from the meddling, mis-directed kindness of over-zealous friends.

6. For the obtaining of sleep and the relief of nervousness, the administration of antipyrin, chloral, paraldehyde, urethan, and the bromides, is preferable to opiates, though occasionally the latter are demanded.

7. When the conditions surrounding a patient are unfavorable, and a change is desirable, even to a distant point, the removal, under proper precautions against chilling and unrest, may be permitted or even preferred, the danger of the same not being as great as it is generally considered to be.

8. As a rule, a patient with typhoid fever, or any other wasting disease, should not be permitted to have bed-sores; they are an expression of starved tissue and neglected skin, and are preventable, the means for their prevention being proper nutrition and bathing.

CASES OF ABDOMINAL SURGERY.

8. Removal of Uterus for Fibroma—Death. 9. Digital Dilatation of Stenosed Ileo-cæcal Valve—Recovery. 10. Loreta's Operation—Death. 11. Ovariotomy—Recovery. 12. Stab-wounds of Liver and Colon—Recovery. 13. Resection at Ileo-cæcal Valve for Epithelioma—Recovery. 14. Artificial Anus for Encephaloid Obstruction of Bowels—Recovery. Death from Peritonitis.

Read before the Philadelphia County Medical Society, April 11, 1888.

BY J. M. BARTON, M.D.,
OF PHILADELPHIA.

(Concluded from page 519.)

Case 8.—Large fibroma of the uterus. Removal of uterus and ovaries by abdominal section; death on the fourth day.—Mrs. S., æt. 32 years, a patient of Drs. Skilling and MacOscar, of this city, had been ill for two years, and had been bleeding for sixteen months. During the last six months she had never been free from bleeding more than a week at any one time, and for the last ten weeks, she stated, she had bled daily from two to sixteen ounces, the latter amount only after exertion, this confined her constantly to her bed or lounge. She had a good appetite, good digestion, and was well nourished though exceedingly blanched.

The diagnosis of large submucous fibroid was made when I first saw her, six months before, and full doses of ergot had been taken constantly, during all that time, without effect.

At the time of operation, the enlarged uterus reached to the umbilicus, was perfectly smooth and regular in its outline and quite movable.

On December 9, 1886, with the assistance of Drs. J. C. Da Costa, Porter, Skilling and Fisher, the operation was performed. I made a long median incision from the pubes to some inches above the umbilicus; there were no adhesions, the uterus was readily elevated and a short "Thomas" clamp placed upon its neck.

After the broad ligaments had been tied and divided, the body of the uterus was removed about an inch above the clamp.

As the abdomen was quite deep and its walls quite thick, it was utterly impossible to bring the pedicle outside, a strong silk ligature was passed through the neck, below the clamp, and tied on each side.

When the clamp was removed the parts above the ligature were found to consist of uterine wall, enclosing a section of the tumor; on removing the latter the uterine walls required but little attention to make very perfect flaps, they came together without tension and were held in position, with their peritoneal surfaces in close contact, by a continuous catgut suture. The toilette of the peritoneum was carefully made and the abdomen closed.

The uterus removed was about seven inches in diameter and contained a submucous fibroid, attached to nearly the entire inner wall; in size and attachments it is nearly identical with one, also removed by abdominal section, which I presented to this Society some years ago.

The patient rallied well from the shock of the operation, and by the following day was quite cheerful, with good pulse and temperature, but she had secreted very little urine. On the third day some regurgitation of bloody fluid occurred from the stomach, the temperature increased and the urine was still scanty. There was no abdominal tenderness or distention. By evening delirium occurred and death ensued the following day. The nurse assured me that only three ounces of urine had been secreted during the four days.

On post-mortem examination there were no evidences of peritonitis except slight adhesions of the bowel lying in contact with the uterine stump. The ureters and the bladder were uninjured, no bleeding had occurred, the uterine stump had remained well closed. The uterine wound was quite clean, no decomposing or offensive fluids were present. Some small portions of the very edges of the flaps looked as though they were beginning to slough, though very much less than I feared would happen when I ligated the neck. I think, in future, I shall content myself with ligating the arteries of supply and omit the ligation of the uterine neck.

Case 9.—Stricture of the ileo-cæcal valve; chronic obstruction of the bowels. Laparotomy; digital dilatation of the stricture; recovery.—Mrs. Ann H., æt. 37 years, a patient of Dr. D. S. Jones, of Plymouth, Pennsylvania, was admitted to the Jefferson Medical College Hospital in May 1887. She had been in good health until the birth of a child in May, 1886. Since then she had had repeated and increasing attacks of obstruction of the bowels; during which there were entire loss of appetite, obstinate constipation, constant vomiting, great abdominal pain, and tenesmus, similar, she stated, to labor pains. Lately there had appeared at these times a tumor in the lower part of the abdomen about the size of the adult fist; these attacks occurred about once a month, and as they lasted three weeks she had but a short interval of comfort between them. When free from the attack, she stated that the tumor returned to the right iliac fossa, where she thought she could distinguish it by palpation and its tenderness on pressure. I was unable, at this time, however, to recognize any unusual mass in this situation.

I kept her under observation until an attack should occur. On May 21, an attack began, and her sufferings fully verified her statements. The tumor appeared between the umbilicus and the pubes, it was about the size, and very nearly the shape, of the adult kidney.

On May 2, 1887, in the presence of Professors Gross, Parvin, Brinton, and several other physicians, I made a median incision about four inches in length and exposed the mass; it proved to be an intussusception of the ileum into the colon with a thickened and contracted ileo-cæcal valve forming the apex of the intussusceptum.

There were slight adhesions between the contiguous layers of peritoneum covering the bowel, which were readily broken up, and the intussusception reduced.

On examining the ileo-cæcal valve by a finger invaginating a fold of the colon, it was found to be hard and contracted. A longitudinal incision was made in the colon about one inch in length, and three from the valve, through which I passed my finger and found the valve contracted to about the size of a crow's quill (one-fifth of an inch). It was slightly thickened, quite hard, white in color, and did not bleed during the examination or subsequent manipulations. It was considered by all present to be a case of cicatricial stenosis due to some previous inflammatory action, and certainly not malignant. It was dilated, with considerable difficulty, by the introduction of the little finger, the index finger was then carried through its entire length.

The wound in the bowel was closed by a continuous silk suture, including only the mucous membrane; the peritoneal mucous coats were brought in apposition by a continuous silk Lembert suture.

All the operative procedures upon the bowel were performed outside of the abdominal cavity, the abdominal wound being kept closed by sponges. The portion of bowel outside was thoroughly washed and returned, the abdominal wound was closed in the usual manner.

There was some vomiting after the operation, the patient was kept slightly under the influence of morphine for a few days, and on a milk and broth diet. The bowels opened naturally on the eighth day, the

stitches were removed on the fifth and sixth days; the temperature never rose above 100°. She returned to her home entirely free from all her previous symptoms, and remained free for several months.

[Her subsequent history appears later in this paper.]

Case 10.—Obstruction of the pylorus. Digital dilatation by Loreta's method; death from exhaustion.—George H., German, æt. 58 years; blacksmith. His health had always been good until the last year. At the time he came under my care he had the typical symptoms of complete pyloric obstruction, with a well-marked tumor at the usual situation, it was not very large nor hard, had no marked outlines, and presented the characters of pyloric thickening more than those of a malignant growth. The microscopical examination of the matters vomited gave no evidence of malignancy, and no vomiting of blood had occurred. He was greatly emaciated, and so feeble that at first I refused any operative interference; the operation had, however, been explained to him, and its performance promised before he came under my care, and he insisted so strongly on having a chance for prolonging his life that I consented.

The operation was performed at Jefferson Medical College Hospital May 22, 1887, in the presence and with the assistance of Professor Brinton, Dr. Wirgman, and quite a number of others.

As the patient's condition warranted no further interference than mere dilatation of the pyloric orifices, and as the usual incision to the right of the median line would have exposed the stomach nearer to the pyloric orifice (as shown by the position of the tumor) than I desired, I made the incision directly in the median line, and about three inches in length, beginning an inch and a half below the ensiform cartilage.

The stomach was readily exposed three inches from the pylorus. The examination of its exterior threw no new light on the character of the growth, though the stomach at this point was found to be slightly adherent to the structures beneath. An incision, a little over one inch in length and three inches from the pyloric orifice, was made in the stomach, parallel to and directly beneath the abdominal incision, the coats of the stomach were much thickened. Complete stenosis of the pyloric orifice was found when the finger was introduced, this was readily dilated with the little finger, while the tumor was supported outside the abdominal walls with the left hand, the orifice was then further dilated by the index finger.

The thickening and infiltration of the walls of the stomach at the point of incision prevented the use of the Lembert suture, their softened condition evidently required the suture to pass through all the coats. As the abdominal wound was directly over that in the stomach, the latter was closed and brought in contact with the abdominal wound, so that the visceral and parietal peritoneum might adhere, and if any of the contents of the stomach should escape or any pus form, they might readily drain outside and not into the general peritoneal cavity. Fine silk with two needles were used, these were carried from within outward through all the coats of the stomach, one needle through each lip, then crossed and one brought through each lip of the abdominal wound, a few were carried direct without crossing. These sutures were tied and the abdomen closed.

Nothing was given for the first twenty-four hours by the stomach, the rectal nourishment upon which he had relied previous to the operation being continued. No vomiting occurred during the four days that he lived, on the second day milk and hot water were given in small doses at regular intervals, and as they were well borne they were increased in quantity and frequency. Notwithstanding the fact that he took over a quart of milk per day, besides rectal nourishment, he sank and died exhausted on the fourth day after the operation. There had been no elevation of temperature.

At the autopsy the stomach was found firmly fastened to the abdominal wall, there was no evidence of any peritonitis. In the interior of the stomach it was difficult to find the point at which the incision had been made, the sutures being completely buried in the folds of the mucous membrane. The pyloric thickening was inflammatory in character, and not due to any malignant growth.

There was complete obstruction previous to the operation, there was none after, and had the patient been subjected to operative interference earlier there is no reason why his life might not have been greatly prolonged.

Case 11.—Ovarian tumor. Removal; recovery.—Miss A., æt. 38 years, had noticed a painless abdominal enlargement for a few months. On examination I found a small ovarian cyst, lying in the median line and rising slightly above the umbilicus. On May 23, 1887, with the assistance of Drs. Da Costa, Edward Graham, Sweet, and Fisher it was removed. The incision was about three inches in length, the tumor was non-adherent. It was tapped, drained, and removed in the usual manner; its pedicle was tied with silk and dropped.

The peritoneum was brought together with chromicized catgut, the interrupted silk suture being used for the other tissues. The patient made an uninterrupted recovery, her temperature never rising above 99°. The tumor weighed about fifteen pounds.

Case 12.—Two penetrating stab-wounds, one puncturing the liver and one the transverse colon. Laparotomy; recovery.—Michael H., æt. 25 years, was admitted to the Jefferson Medical College Hospital at 3 P.M., of September 9, 1887. About three hours previously he had been stabbed twice with a small and pointed amputating knife, during a quarrel in a house of ill-fame.

There were two wounds, both penetrating the abdominal cavity, both at the outer edge of the right rectus muscle, and both running diagonally toward the median line, and penetrating the peritoneum at that point. The upper was one and a quarter inches long and was just below the edge of the ribs, it terminated in the left lobe of the liver, from it there was free venous bleeding.

The lower wound was three-quarters of an inch long; it was three inches below the upper and just above the level of the umbilicus. After hurried antiseptic preparations, I opened the abdomen in the median line from the ensiform cartilage to the umbilicus, and found an opening about five-eights of an inch in length in the transverse colon parallel to its length and near its mesenteric attachment; this was closed by the continuous silk Lembert suture. The suture failed to control a small artery in this wound, but a separate stitch carried under it and tied secured it.

The wound in the liver was small, it had ceased oozing, and as its lips were in fair contact no suture was used. The abdomen was cleansed, the wound closed and dressed in the usual manner.

The following morning his temperature was 101° and in the evening 100°; after that, though it kept quite low, varying from 98½ to 99½°, he had a sharp attack of peritonitis, lasting three days, during which time there was constant regurgitation of bloody fluid. The abdomen was painful and greatly distended with gas, requiring the constant use of the long rectal tube to relieve him. The stitches were removed on the fourth and fifth days, and the abdomen supported by adhesive plaster. He was discharged cured on September 29, having been in the hospital twenty days.

Case 13.—Epithelioma of the ileo-cæcal valve. Resection of three inches of intestine; recovery.—Mrs. H., æt. 38 years, the same patient whose ileo-cæcal valve was dilated seven months before (see page 547), came complaining of a return of her former symptoms, her sufferings were slight, but were evidently of the same character as before the first operation.

November 1, 1887, with the assistance of Drs. Allis, Kendig, Stillwell, and the resident staff, I again opened the abdomen. A straight incision parallel to the median line was made, it was three inches in length terminating at a point one inch outside the middle of Poupart's ligament. The incision was made at this point as the nearest to the portion of bowel I wished to attack, because I feared adhesions might have formed after the last operation, rendering it inaccessible from any distant incision; and, further, if it became necessary to form an artificial anus, it wound be a convenient point.

I had decided that if it should prove to be a recontraction of the stricture, to make a longitudinal incision about two inches in length carried through ileum, ileo-cæcal valve, and cæcum, bringing the two ends of the wound together and sewing it up transversely; this would best be made on what would be the under surface of the bowel when the patient stands erect. I tried this on the cadaver and found it practicable, and that it increased the circumference of the bowel, at that point, about two inches.

The head of the colon was readily found, there was no return of the intussusception, no adhesions had formed, though in reducing the intestine at the first operation there had been slight bleeding at a number of points where adhesions were torn. The scar of the original intestinal incision was scarcely perceptible. At the ileo-cæcal valve, however, there was now a decided tumor, and it was now evidently epitheliomatous.

An incision was carried into the mass verifying the diagnosis, the entire valve had become an irregular mass of epitheliomatous tissue varying in thickness from a half an inch to an inch, entirely obstructing the gut except an aperture in the centre, about one-third of an inch in diameter. The circumference of the valve was less thickened by the disease than the centre.

The abdominal wound was now closed by sponges, leaving the diseased parts outside; three inches of the bowel, including the disease, were removed; no clamps were used, the bowels being held in the hands of an assistant; a few vessels were tied.

As the mortality is very high when the separated ends of the bowel, in these operations, are sewed together and returned, I had decided if it became necessary to excise, to establish a temporary artificial anus and begin at once the proceedings for its cure. With this end in view, immediately after the removal of the diseased bowel and the ligation of the bleeding vessels, one blade of Dupuytren's enterotome was introduced into each portion of bowel, viz., one into the ileum and one into the colon, the two blades were brought together and the screw run down firmly. A strong ligature was placed on the ends of the bowel, including the enterotome, to prevent the escape of feces during the subsequent manipulations. The bowel was washed, placed in position at the lower angle of the wound and fastened there with a continuous silk suture. The abdominal wound was closed, covered with cheese cloth saturated with mercurial solution, and this in turn with patent lint soaked in sweet oil. This is the best method that I have found to protect abdominal wounds close to an artificial anus.

The heavy ligature around the ends of the bowel was now removed. A ring of cotton soaked in oil placed around the artificial anus, the outer extremity of the enterotome supported by oakum, and a wide bandage pinned over it. Morphine was used hypodermically during the first forty-eight hours and then discontinued; vomiting occurred during the first two days and then ceased. Some feces appeared on the evening of the operation, and full quantities two days later.

On the eighth day the enterotome was found loose, and was removed; its removal was preceded by a passage of feces from the natural outlet. The stitches were removed on the third and fourth days, and the wound supported by adhesive plaster. After the removal of the clamp the patient was permitted to rise, and all restrictions removed from her diet.

The bowels acted naturally for a few times, when all the feces came again from the artificial anus. The clamp was again applied on the 17th, and came away on the 28th. Its removal was again followed by a few natural passages. As these ceased in a few days the clamp was applied for the third time with a precisely similar result.

As this had proved ineffectual, the method of Mr. Banks, of Liverpool, was used. A strong ligature

was fastened to the middle of a heavy piece of rubber gas tubing about six inches in length, one end of the tube was passed into one bowel, the other end of the tube into the other bowel, the middle of the tube pressing against the spur. The position of the bowel in this case was such that the rubber tube was retained with difficulty. After trying it for ten days without success, I substituted the apparatus which I here show, consisting of two pieces of very heavy rubber gas tubing joined together like the letter **T**. The upper part of the **T** is about one and a half inches long, and presses directly against the spur; the other tube is three inches long, and merely serves to keep the first in position. The large base is circular, is three inches in diameter, and serves as a pad to prevent the escape of feces from the artificial anus. The three pieces of rubber are joined firmly by a strong wire running from the first to the last piece, and twisted tight. This method proved at once satisfactory, and a large proportion of the feces began at once to pass by the natural outlet, and continued to do so. The patient is now in the hospital, but I shall make no attempt to close the fistule until it is seen if the bowels will continue to act naturally.

During this prolonged treatment, fearing that the colon, from disuse, might contract, I directed that she should be given an injection of a quart of water daily, and I was surprised to hear that when a pint had been given it appeared at the artificial anus. By continuing these injections the capacity of the colon was rapidly increased, and when last tried it held three pints; of course, when the bowels began to act naturally this was discontinued.

Case 14.—Chronic obstruction of bowels by encephaloid tumor. Exploratory laparotomy; artificial anus established; recovery from the operation; death fourteen days later from obstructive peritonitis arising from tumor. Francis O. B., æt. 38 years, Irish, carpet porter, a patient of Dr. James Robinson, with whom I saw him January 18, 1888. He was in perfect health until June, 1887, when he began to have slight cramps, once or twice daily, and occasionally at night, in the left iliac fossa. He continued working until December 24, 1887, and has been confined to bed since. His attacks had not increased greatly in severity, but he was getting much weaker. He had lost fifty pounds in weight; he vomited once or twice a week; it was not stercoraceous. He suffered greatly with tenesmus, which produced from ten to fifteen passages during the night, each being a small, hard, white mass about the size of a cherry.

The left iliac fossa was slightly tender. The abdomen was distended with gas. The pulse was 104, and the temperature normal. His pain was uninfluenced by food. He had never passed blood by the bowel. The rectum was found empty and unobstructed.

Later I removed him to Jefferson Medical College Hospital, by which time his pain was nearly constant, and he was unable to sleep without large doses of morphine. Some days after admission his temperature increased to 103°; there was increased abdominal tenderness and other evidences of a slight attack of peritonitis, which disappeared in forty-eight hours. On the 28th he passed wind by the penis, and again on the 30th.

On January 30, 1888, with the assistance of Drs. Allis, Nancrede, Robinson, and the house staff, I opened the abdomen. A median incision about four inches in length was made, and a lobulated tumor the size of an orange was found in the angle between the bladder and the spine. The sigmoid flexure of the colon was tightly adherent to and partly buried in the tumor. The cæcum was carried toward the median line, and was also adherent to the tumor. The lower end of the ileum was closely adherent, and its calibre nearly obliterated.

The colon was contracted and collapsed; all the bowels above the point of obstruction in the ileum were greatly distended.

As nothing could be done with the growth, a fold of the ileum a few inches above the point of obstruction was brought out of the wound and fastened in its lower angle by a few silk sutures, a rubber drain was introduced, as a glass one failed to reach the desired point, and the abdomen closed. The drain was removed about twelve hours later, as I feared to have it remain in such close proximity to the artificial anus. Twenty-four hours after the operation the fold of bowel in the wound was opened, and the artificial anus established.

On the second day the patient was placed upon his usual food, stimulants, etc. The stitches were removed on the fourth and fifth days; the wound healed promptly. It was successfully kept from contamination by the fæcal discharges, by the method described in a case reported above.

At the operation a fold of bowel was brought entirely out of the wound; this was adopted as a modification of the method of entirely cutting off the bowel, closing the lower end with sutures, and using the upper to form the artificial anus.

The method here adopted has the advantage of rapidity, less danger of contaminating the cavity with fecal matter, as the opening of the bowel may be postponed until firm adhesions have formed. It permits any gases or other material that may be imprisoned in the lower bowel to escape, and quite as effectually prevents any material passing the artificial anus into the lower bowel.

The patient was relieved of his pain, the vomiting ceased, and he slept well; had a fair appetite, and improved in appearance. All fæcal discharges, and they were very copious, came from the artificial anus, and none by the natural outlet after the first twenty-four hours.

On the thirteenth day there was a slight elevation of temperature, and all fecal discharges suddenly ceased, injections of warm water carried some distance above the opening by a soft catheter were without effect; by evening vomiting and other symptoms of acute obstruction occurred, and he died twenty four hours later, or fourteen days after the operation.

The post-mortem examination was made on the same day. The abdominal wound was solidly healed;

the bowel, at the artificial anus, was firmly attached to the abdominal opening. The abdominal cavity contained quite a quantity of opaque serum; the opacity was greatest near the tumor, and on pressing the tumor, thick, purulent-looking fluid exuded from it. This was probably the origin of the fatal peritonitis. The bowels were but slightly congested, and at one point only, about twelve inches above the artificial anus, were adherent. The bowel at this point was sharply flexed upon itself, and adherent for about three inches, causing complete obstruction. This adhesion was readily broken down by the finger, and it would probably have yielded to an active saline.

The condition of the bowels, as found at the time of the operation, was verified, the tumor was broken down, and had ulcerated into the sigmoid flexure; a large number of secondary nodules were scattered through the liver. The microscopical examination was made by Dr. Longstreth; the tumor and the nodules from the liver were reported by him to be encephaloid.

FIFTY CASES OF SCARLET FEVER.

Read before the Suffolk District Medical Society, Section for Clinical Medicine, Pathology and Hygiene, February 8, 1888.

BY HENRY JACKSON, M.D.,
OF BOSTON.

I wish to present to the Section a short account of these cases, as an epidemic of this size always gives one an opportunity of making some interesting observations.

These cases occurred in the North End of Boston during the months of April to October.

April	4	Very mild.
May	3	
June	3	
July	3	More severe.
August	10	Much more severe, with throat trouble.
September	24	Severe type with diphtheria.
March	2	
Total,	50	

Of these cases thirty may be characterized as of a mild type. Prodromal period short, usually twelve to twenty-four hours; vomiting almost always present; headache and malaise; usually more or less complaint of sore throat. In cases where an examination at the early stage was possible, I did not find the appearance of the throat sufficiently characteristic to warrant a diagnosis of scarlet fever merely from this symptom. In no case were convulsions seen. The period of efflorescence lasted from twenty-four hours to four days, rarely longer. Temperature not high. Many of the children wished to be about the house, and were with difficulty kept in bed, even during the height of the eruption. Vomiting ceased in most cases on the appearance of the eruption; occasionally it continued until convalescence was established.

As the other cases presented some points of more particular interest, I will give them more in detail. In two cases there was no eruption and yet the diagnosis of scarlet fever seems to be fairly well justified.

(1) Katharine McC., 15 years. Slept in a bed with two children who had well-marked eruption. She had a moderate fever, headache, malaise, and pharyngitis and tonsilitis (not follicular). Well on fifth day. No sequalæ.

(2) Annie McL., 11 years. Lived in the same flat that three children lived in who had scarlet fever. No eruption, slight pharyngitis, mild febricula of a few days' duration. Of course scarlet fever would not have been considered except for the other well-marked cases. Under the circumstances it seems to me highly probable that her symptoms may have been due to scarlet fever.

Raphael B., 4 years. Acute lobar pneumonia on seventh day. Course of the scarlet fever mild and of no special interest. In four cases convalescence was delayed by suppuration of the parotid gland. One case was complicated with measles.

Mary McC., 2 years. Well-marked eruption of scarlet fever; severe catarrhal pharyngitis. On the fifth morning the eruption had faded, and the temperature was normal; that night temperature 102°, and body covered with a very fine punctate rash. Next day an abundant and well-marked eruption of measles. Catarrhal inflammation of eyes, nose and bronchi. Child very sick for a week. Pulse 160, temperature 103° to 104°, respiration 45. Lobular pneumonia in right front. In the latter part of the attack of measles the skin presented a very curious appearance, as the bright red papules of the measles were covered by the dried scales left by the scarlet fever. Urine showed a small trace of albumen and a few casts. Complete recovery.

One case only had very high fever.

Nettie McC., 6 years. Eruption well-marked; temperature 104° to 105° for several days; pulse 140; stimulants ordered. Disease was followed by leucorrhœa of several weeks' duration; and one month after the attack of scarlet fever she had articular rheumatism.

One case had œdema during convalescence without any apparent renal disease.

Nellie C., 6 years. Mild fever; no vomiting, slight pharyngitis; during convalescence very marked anæmia, slight œdema of face, hands and feet. Careful and repeated examination of the urine gave a negative result as to the existence of renal disease. I attributed the œdema to the anæmia, but found that Strümpell spoke of œdema as occurring after scarlet fever dependent upon molecular change in the walls of the bloodvessels.[1]

Two cases of acute Bright's disease. In the second and third weeks respectively, after the onset of the scarlet fever, urine smoky in color, contained ¼ per cent. of albumen, large numbers of casts of various kinds. In each case headache, vomiting and general œdema. Complete recovery in each case.

The following case is one of great interest; and I fortunately have complete notes of the case, as the child was under the care of a trained hospital nurse.

R. F., 9 years. November 4. Eruption appeared,

[1] Third edition. Vol. I, p. 63.

very light; pharyngitis marked. For three days pulse and temperature very high. On tenth day temperature normal, and pulse 100. During convalescence pulse very slow and irregular, frequently intermittent; no murmur detected. Under small but frequent doses of tincture of digitalis and brandy pulse became rapid, regular and of good strength.

November 20. Sudden rise of temperature, with swelling of the glands of the neck. Examination of the urine negative.

November 23. Three weeks after the onset of the fever. Passed very little urine; vomited several times; slight œdema. Rise of temperature. Urine smoky; ¼ per cent. of albumen sediment that of acute parenchymatous nephritis. Gradual improvement in general symptoms and in the character of the urine until December 1.

After having passed a remarkably good day, the child woke on the night of December 1, and complained of severe frontal headache. Vomited several times during the night. These symptoms continued through the forenoon of December 2. Small dose of morphine ($\frac{1}{16}$) given on account of headache.

In the afternoon became somnolent, and soon completely unconscious. At 4 P.M., respiration 20, pulse 130; pupils not noted by the nurse. Diagnosis of opium-poisoning was made by physician, and treatment ordered accordingly.

I saw the child at 5.30. Found respiration 18, irregular in rhythm; pupils normal. He was inclined to sleep but when aroused answered questions intelligently. An hour later, roused with difficulty; when addressed, did not answer the question but counted 26, 27, 28, 29, 30. He never counted more than 30, always began with 26, and sometimes repeated the number 26 several times without counting further.

At 8 P.M., perfectly unconscious; respiration stertorous, irregular, two to four respirations being followed by a long pause, etc.; pulse 120; pupils regular and of normal size; convulsive twitching of the right side of the face and right arm, which lasted for about three quarters of an hour; no paralysis.

Next morning perfectly conscious; showed no symptoms, and had no remembrance of the events of the previous day.

For several days the urine was very scanty, contained a large amount of blood and albumen, and many casts. From this time on gradual improvement, until convalescence was completed. The distinctly localized convulsive twitching seemed to point to some lesion of the cortex; but I think that the rapid recovery makes it more probable that all the cerebral symptoms were dependent upon uræmia. There was at this time a slight systolic souffle at the apex, but no enlargement of the heart.

January 25. Boy stout and well; no murmur.

Eight cases had severe diphtheritic inflammation of the throat; that is to say, there was extensive ulceration, with membranous exudation on the tonsils and uvula, or pillars of the fauces. Cases in which several small gray patches were seen on the tonsils are not included in this list.

Flint, Henoch and Strümpell say decidedly, that though the disease is anatomically identical with the condition usually found in diphtheria, the disease is etiologically distinct. Eichhorst considers it at least possible that the condition is due to true diphtheria implanted upon the already existing scarlet fever.

The chief arguments that the disease is not diphtheria are clinical in nature; namely, (1) Invasion of the larynx is rare; (2) paralysis rarely follows; (3) the disease is not so fatal as true diphtheria.

So far as any conclusions can be drawn from so small a number of cases, all of these arguments are refuted by the cases which came under my observation.

In only one case did the diphtheritic inflammation appear early in the course of scarlet fever; in the others the membrane was observed on the third or fourth day, or during the stage of desquamation.

One case died from invasion of the larynx by the diphtheritic membrane. In a second case there was probably membranous laryngitis, as evidenced by hoarseness and embarrassed respiration. The child died apparently from asthenia. I doubt if tracheotomy would have been of any avail, even if the parents had assented to the performance of the operation.

Two cases died of paralysis of the heart, one when convalescence was perfectly established, and one when the child was apparently improving rapidly.

The mortality was large, as four out of eight (50 per cent.) died.

Cases of especial interest are the following:

Millie H., 3 years. When first seen remains of a rash of scarlet fever; on both tonsils and uvula a dirty gray membrane, which spread in a day or so to the pillars of the fauces. Parts bled if touched. Another physician was called, as my prognosis was grave. On the eleventh day I saw the child playing in the street. No ulceration in the pharynx. On twelfth day, sudden death from paralysis of the heart, according to the account given by the family

Johanna M., 2½ years. Brother of the patient had had a mild attack of scarlet fever eleven days previously. Patient had mild attack without marked pharyngitis. Fifth day tonsils much swollen. In a few days both tonsils and uvula were covered with membrane; lips and edges of nostrils ulcerated and bleeding. Thirteenth day, voice hoarse and almost inaudible; respiration somewhat embarrassed. Fifteenth day, death, without any preceding dyspnœa. Trace of albumen and a few casts in the urine.

Daniel S., 5 years. When first seen desquamation was going on; emaciation extreme; voice whining; ulceration of the edges of lips and nostrils; membrane on both tonsils and uvula; abscess below right ear that contained thin, bloody, foul-smelling pus. Treatment: locally, iodoform; internally, corrosive sublimate (gr. $\frac{1}{60}$ every hour), whisky and eggs. Perfect recovery.

Three cases occurred in one family by the name of O'Brien. Hygienic surroundings good.

September 14. Louisa, 11 years. Malaise; slight pharyngitis; rash, which lasted twenty-four hours. Second day, perfectly well. No sequalæ. No desquamation.

September 14. Mary, 9 years. Eruption very full

and bright. Third day, membrane on uvula and pillar of the fauces; mucous membrane of lips ulcerating and bleeding. In the course of a few days, foul ulcer on right elbow, ulcer of genitals and perinæum. Sixth day, right knee red, swollen and tender. Next day same symptoms in left knee and left wrist. The disappearance of the latter symptoms in two days, under the use of sodii salicylic made the diagnosis of rheumatism probable. Sudden death on tenth day.

James, 3 years, and Anne, 4 years. Both taken sick September 17. In both cases eruption intense; face much swollen, so that the eyes were partially closed; œdema of hands; urine contained a trace of albumen and a few casts. On third and fourth days respectively a membrane appeared on the tonsils and uvula. Both recovered completely.

The œdema in these cases was apparently due to the intensity of the eruption, as in neither case did the examination of the urine warrant the diagnosis of Bright's disease. Two other children that slept in the same room were not sick. It is an interesting fact that during the height of the disease the mother was confined, and convalesced without having any peuperal fever. She had no doctor or nurse.

SUMMARY.

Of these 50 cases, 4 died (1 in 12), all of diphtheria. These 4 cases are the only ones that died in my district, of scarlet fever, from April to January, the total number of cases being 88. This gives a mortality of 1 in 22.

It has been interesting to me, and very satisfactory, to find that I have not been called to a single case of scarlet fever in a family which I had attended previously for any other disease. Of course it was impossible for me to think of changing my clothes, or even disinfecting the hands, before attending other cases.

The new cases visited each month average in my district 200.

The eight and only cases of diphtheria all occurred in three weeks, and represented one third of the total number visited in the three weeks.

Treatment.—In mild cases, expectant. In cases with high fever, tepid sponge baths and antipyrin. In cases with diphtheria, brandy and tincture ferri chloridi.

THE MEDICO-LEGAL ASPECT OF POTT'S FRACTURE.

Read before the Chicago Medico-Legal Society, March 3, 1888.

BY L. L. McARTHUR, M.D.,
OF CHICAGO.

In venturing to call your attention to so common a fracture, it has been rather with a desire of impressing, by repetition, what is already known, than to submit something new. To do so let me, as briefly as is consistent with clearness, present the subject by reviewing its surgical and anatomical aspects. Pott's fracture has been defined as a fracture of the fibula, combined with a fracture of tip of internal malleolus and laceration of internal lateral ligament, presenting a characteristic deformity. It is *not* as many without reflection might think, a fracture of fibula simply.

First, recall the fact that astragalus is so mortised between the malleoli that (except in extreme flexion or extension) little or no *lateral* movement *of that bone* is possible.

Second, That the thinnest, weakest point of the fibula is about 2½ inches above its lower extremity.

Third, That one of the lateral ligaments of the ankle are torn in about all the fractures of the lower extremities of tibia or fibula from indirect violence and you have explanation for the location, causation and deformities existing with these fractures.

Pott's fracture is always the result of indirect violence, occasioned by a forcible turning outwards of the sole of the foot. The history would seem to be that fracture (from the great strain) of the tip of the internal malleolus occurs; the strain then falling suddenly upon the fibula that bone fractures also at its weakest point, leaving the deformity which characterizes the case in question. The diagnosis when crepitus at fibula, loss of tip of inner malleolus, and increased mobility are present is patent and easy.

But though the fibula be fractured *crepitus* can in many cases not be obtained because the smallness of the broken ends tends but little to hold them together and as they generally overlap none can be felt, hence the too frequent treating of such an injury as a "sprain," with its subsequent weeks or years of suffering. The poor function of that ankle, and a possible suit for malpractice. What then will be our best aids in arriving at a correct opinion?

First.—Remembering the fact that the astragalus is practically immovable laterally when half-way between flexion and extension, if we find the latter freely movable in such a position we may be pretty sure of our case. To do this best the palm of right hand should rest against the sole of foot, while the left grasps the leg just above the ankle, with the fingers tips and thumb of right hand grasping the astragulus (not as calcis and tarsus that are freely movable) one can try a lateral rocking movement, when if the bony supports on either side have given way the astragalous will move with it, otherwise not.

Secondly.—Since fracture of fibula can in but about half the cases be determined by crepitus, it is necessary to decide by some other means. Recalling the fact that the lower tip of the external malleolus extends below the line of the articulating surface with astragalus, we can see how direct inward pressure upon that tip will determine the case for us. For if it be not fracture it certainly cannot be budged, but if on the contrary there be a fracture above, the tip acts like the short arm of a lever, the fulcrum being at the articulating facet, and the long arm the lower end of shaft of the fibula; hence a decided teeter or rocking of the lower fragment can always be induced and be best perceived when the right thumb of the physician corresponds with the patient's right external malleolus, his left with the corresponding left of patient, while the finger-tips of the opposite hand rest upon that portion of the fibula about its articulating facet. By alternating pressure at these two

points, a fracture of fibula can *always* be determined though crepitus be absent.

Finally, to be sure that we have the true Pott's fracture to deal with, comparison of the tip of the internal malleolus is necessary.

Now the *medico-legal* aspect which cases of this nature may assume is dependent wholly upon the subsequent treatment, and since proper treatment can only then be applied when a correct diagnosis has been made, my emphasizing the means of diagnosing this fracture can be the more readily pardoned for a fixed medico-legal aspect in any case can only exist when a positive diagnosis is possible. As to differential diagnoses we have to distinguish this from (1) laceration simply of the lateral ligaments (2) from simple fracture of the fibula (3) from simple fracture of internal malleolus.

Simple laceration of lateral ligaments is, according to authorities, comparatively rate. When the tips of both internal malleoli correspond in shape, when there is no rocking of the fibula at its lower end, nor but little of the astragalus when pressed firmly into the mortise made by tibia and fibula it is fair to conclude that the ligaments have been torn.

When both the tip of the internal malleolus is missing, rocking of astragalus and lower end of fibula is present a fairly sure diagnosis of Pott's fracture may be made (3) when with normal contour of internal malleolus tip, rocking of lower end of fibula over the fulcrum made by its articulating facet, and increased mobility of astragalus inwards is present a simple fracture of the fibula can be asserted to be present with reasonable confidence. Now, since nature shows us a bony mortise normally present in the ankle, if we do not restore in so far as lies in our power the same close apposition of the articulating surfaces when these have been disturbed a medico-legal, with accent on the *legal*, phase soon presents itself. To accomplish this best the treatment recommended by Velpean is certainly the best either for fracture of fibula simple, Pott's fracture, or fracture of internal malleolus. This consists of a long internal splint padded to fit the inner aspect of the leg, and extending (here is the important feature) several inches below the foot. The sole of the foot is then made to face inwards against splint by bandaging, thus restoring 1, internal malleolar tip; 2, drawing upon fibula; 3, relaxing internal lateral ligament.

In conclusion let me reiterate,

1. That the astragalus will not rock laterally.

2. That the normal mortis be restored in so far as possible.

3. That diagnosis of fibular fracture must not be dependent upon crepitus.

4. That these chronic, long-lasting ankle sprains are most often accompanied by destruction of the normal mortise.

5. That with laceration of univascular ligament or tissue there is far less hæmorrhage and consequent ecchymosis.

DR. THOMAS KEITH, the distinguished surgeon of Edinburgh, will soon remove to London.

MEDICAL PROGRESS.

RADICAL CURE OF HYDROCELE BY EXCISION OF TUNICA VAGINALIS.—DR. W. W. KEEN reports a successful case, in the *Medical News* of April 7, 1888, and says:

Until recently various methods of injection, especially by iodine or carbolic acid, have been the chief and almost the only means employed in the treatment of hydrocele. They have the great advantage that but few deaths can be laid to the use of iodine, and none, I believe, to carbolic acid. But they have several disadvantages.

First, that of recurrence. In over eight per cent. of the cases treated by iodine, recurrence takes place, and this misfortune sometimes even occurs a second time. Carbolic acid has been much less widely used, but its promise as to freedom from recurrence is much better than iodine, and if injection be the method chosen, this would seem to be the preferable one.

Secondly. In a large number of cases additional lesions are found besides the hydrocele, lesions which in the majority of cases cannot be cured by any injection. In 123 cases reported by Juillard and Senzmer, cysts were found in 43, enlargement of the testicle and epididymis in 23, thickening of the tunica vaginalis in 54, false membranes in 26, and free or attached foreign bodies in 3.

Thirdly. There is generally great pain.

Fourthly. Not seldom severe inflammation and swelling, sometimes suppuration, and occasionally even gangrene of the scrotum occurs.

Fifthly. Even if no such untoward results occur there are great induration, weight, and tenderness in the scrotum, such that the patient is usually laid up for three weeks, and sometimes longer.

Three somewhat different methods of open antiseptic incision have been proposed as substitutes for injection, and especially with a view to a more permanent radical cure. Volkmann incises the sac, and after syringing it out with a three per cent. solution of carbolic acid, unites the edges of the tunica vaginalis to the skin, and, after drainage, dresses the wound with an antiseptic compressing gauze and bandage.

Juillard took a step further. After incision of the sac, and removal of all pathological products by the scissors or spoon from the sac, cord, or testicle, he then resects the superfluous tunic, leaving only enough to cover the cord and testis. The edges of the tunica vaginalis are then sutured with catgut and the external wound closed independently, drainage and antiseptic gauze completing the dressing.

Bergmann (reported by Bramann, *Berlin klin. Wochenschr.*, April 6, 1885, p. 209) went a step further, and proposed the total extirpation of the free part of the tunica vaginalis, only leaving that portion attached to the cord and testis. Of course, any other concomitant lesions are appropriately treated at the same time. Bramann reports twenty cases, with rapid cure in eleven days, without fever or suppuration. Bull has reported two cases (hydrocele

of the cord) thus operated on, one of which had been twice injected with carbolic acid, and the other once with iodine. Both rapidly recovered. Southam (*Lancet*, September 10, 1887) reports four cases, one of which had recurred after carbolic acid injection, cured with an equally speedy and happy result.

To these twenty-six cases I add but one, but it is an excellent illustration of the slight reaction following the operation, and of the quickness of the cure.

It would seem, *first*, to be almost an impossibility that recurrence should take place, for practically none of the sac is left, and in so far it would be *a priori* the ideal radical operation.

Secondly. This method facilitates the proper treatment of any additional lesion above described as not uncommon.

Thirdly. As is usual after antiseptic wounds, there was little or no pain.

Fourthly. As again is the rule in wounds so treated, there was little inflammation practically no fever, not a drop of pus, and no seeming possibility of gangrene.

Fifthly. There were only moderate induration, weight, and tenderness, so that the patient was up and about on the seventh day, and was ready for discharge on the eleventh day entirely cured and comfortable.

Sixthly. Although a more radical operation than that of Volkmann, it is less painful and less dangerous. In 254 cases collected by the writer, recurrence is noted in three, and two died of septicæmia and pyæmia, while abscess, sloughing, and orchitis have all occurred. Induration, weight, and tenderness have persisted from three to four weeks. The conditions after resection of the entire tunica vaginalis and immediate closure of the wound, with drainage, and antiseptic dressing, are such as to favor the speediest and safest recovery, without any of the dangers above noted as following antiseptic incision.

The case is also a good illustration of "the conditions conducive to the *earliest possible* healing of operation wounds," to which I have called attention in a paper with the above title, read before the Surgical Section of the New York Academy of Medicine (*Medical Record*, January 28, 1888), especially the method of drainage by horsehair instead of rubber, glass, or bone tubing, as is suited best to so small a wound, and the change of dressing on the day after the operation, recovery being complete in seven days.

How to prescribe Digitalis.—In an article on this subject Henri Huchard gives the indications for digitalis in a number of affections, among which may be mentioned:

1. *Cardiac Hypertrophy of Puberty and the Menopause.*—At the age of puberty, he thinks, the cardiac hypertrophy is consecutive to exaggerated arterial tension, and it is this that must be combatted. He attributes the cardiac hypertrophy at the menopause to arterio-sclerosis, so that the cardiac hypertrophy at these two periods of life have practically the same pathogenesis: both are consecutive to increased arterial tension. In these cases digitalis should be prescribed as a sedative in small doses; and always giving preference to depressors of arterial tension and to cardiac sedatives, such as the iodides, nitroglycerine, and preparations of aconite and arsenic.

2. *Nephritis and Asystolism of Renal Origin.*—In chronic parenchymatous nephritis digitalis should be prescribed with reserve, and the same may be said of all active substances that may be retained in the organism and cause intoxication by reason of faulty renal elimination. But as digitalis is not eliminated naturally by the kidneys, albuminuria is not an absolute contraindication to its employment. In the course and at the beginning of interstitial nephritis the arterial tension is considerably increased, and there is cardiac hypertrophy often associated with myocardial sclerosis, and diuresis is normal and often very abundant. In these cases digitalis should not be prescribed, but arterial depressors, such as the iodides and nitroglycerine, should be given. But afterwards there comes a period—in parenchymatous, and especially nephritis—when the heart fails, or its contractions become feeble, or visceral congestions and peripheral œdemas cause lowered arterial and increased venous tension, and the kidneys are inactive. The albuminuric patient has now entered the cardiac stage, and is to be treated as a cardiac patient for asystolism. Such simple diuretics as milk, squills, and nitrate of potash are insufficient, and preference must be given to the cardiac-vascular diuretics, among which digitalis occupies the first place. In such cases "the conservation of the circulatory equilibrium and of the forces of the heart should be the object of the physician's constant attention," as Lecorché and Talamon say in their recent excellent work "Traite de l'Albuminuric et du Mal de Bright." They add, with reason, that cardiac tonics should not be reserved exclusively for advanced stages of Bright's disease, and they advise them at the time of the acute growth of the affection, when the heart tends to be enfeebled by the obstacle created by the renal affection. "We have obtained," they say, "remarkable results from digitalis given from the beginning of acute Bright's disease, the patient being at the same time subjected to an energetic antiphlogistic treatment. The combination of the two methods, the diuretic and the antiphlogistic, seems to us to be the best means, in cases of this kind, to combat inflammatory renal congestion and asthenic dilatation of the heart, and of preventing the necessary consequences, general anasarca and uræmic toxæmia."

In these cases, also, as in all cases of asystolism of renal origin, another cardiac-vascular diuretic, caffeine, must be used, and this sometimes acts with a promptitude superior to digitalis, has no cumulative effects, and is eliminated more rapidly and more surely. The pure caffeine may be given, as by the following formula:

> Distilled water 300 grams,
> Benzoate of soda.
> Caffeine ā̄ 5 grams.
> ℳ.
> S. Take 4 to 6 tablespoonfuls a day.

3. *Digitalis in Aneurisms of the Aorta.*—Most authors hold that digitalis gives very good results in aortic aneurism, that it calms palpitations, diminishes

dyspnœa, and is indicated as an agent having a sedative effect on the circulation. Luton even says that it moderates the blood impulse in the arteries. But the effect is just the opposite, for digitalis increases the blood wave through the aorta, and raises the arterial tension, already heightened by the aneurism.

Bouillaud has rendered great service to medicine by first indicating good effects obtained in aortic aneurisms by the use of the iodides. These have not only a modifying action on the arterial walls, but also, and especially, as depressors of the vascular tension. Huchard uses iodide of sodium, which is just as active as the potassium salt, is better supported by the stomach, is more assimilable, and does not as the potassium salt, cause toxic effects on the heart and general system, by means of the renal insufficiency to which all patients suffering from arterial affections are exposed. Huchard uses the following formula.

Distilled water	300 grams.
Iodide of sodium	20 "
Ext. thebaic	0.05 centig.

℞

Take from 2 to 4, or even 5 tablespoonfuls a day before eating in a little beer (to mask the taste). Continue this during 20 or 25 days every month

It is for the same vaso-dilating action that he gives nitroglycerine:

Distilled water	300 grams.
Alcohol solution (1:100) nitroglycerine	30 gtt.

℞

Take from 3 to 6 tablespoonfulls a day. Or, give the 1:100 alcoholic solution of nitroglycerine, 6, 15, or 20 gtt. a day in 2 gtt. doses. The dose must be diminished or suspended when the medicine causes headache.

The principal indication in aortic aneurism is to reduce the mass of blood. The principles of treatment announced by Albertini and Vasalva, Kirby, Beatty and Stokes, show that digitalis must be given very cautiously, and in small doses, if we wish to obtain only a sedative effect. Preference should be given to doses of 10 to 20 gtt. of the tincture, or 5 to 10 centig. of the infusion, and Huchard recommends that it be given in slightly increasing doses, since if the effect be got suddenly rupture of the aneurismal sac may be caused.

But later, when the arterial lesion is propagated to the coronary arteries, and the cardiac muscle is more or less altered, the malady is no longer simply aortic, but is now mitral. Then digitalis is indicated in large and decreasing doses, to relieve the failing action of the heart muscle, and to combat imminent asystolism.—*Revue Gén. de Clin. et de Thérap.*, March 29, 1888.

THE TREATMENT OF ACNE.—When UNNA takes up even an old theme we expect him to treat it in a new way, nor are we disappointed in the paper now before us ("Monatshft. f. p. Dermat.," 1888, No. 1). He divides acne intc two clinical divisions: 1. The process of closing of the follicle and formation of the comedo. 2. The process of suppuration of the follicle. Comedones are to him only the evidence of the abnormally close coherence of the corneous layer or the skin in the parts supplied with lanugo hairs. The corneous layer becomes thickened and closes the mouth of the follicle. The comedo forms on account of the continuance of the parakeratosis on the inside of the follicle. Suppuration only succeeds to the comedo formation in those follicles which contained *Staphylococcus aureus et albus* before they became closed, or into which they have entered on account of some subsequent irritation, as from tar, chrysarobin, or the like, permitting their breaking through the walls of the glands. The indications to be met in the treatment of acne are two. 1. The loosening of the corneous layer of the skin. 2. The killing of the staphylococcus. We can fulfill the first indication in public practice by the use of green soap, acetic acid, a 5 per cent. caustic potash solution, and salicylic-acid plaster. In private practice these are too rough procedures, and it is better to use sulphur with carbolic acid, or resorcin with corrosive sublimate. Two or three times a week it is well to scrape off the whole diseased parts with the curette, open all the pustules, and squeeze out all comedones. The patients should wash with warm water and soap, and follow this, if their skins are tender, with a powder of oxide of zinc and flour. During the night the medicament is best applied in a paste; during the day in a watery or spirituous solution, two or three times daily after washing. Thus at night we might prescribe:

℞ Benzoinated zinc ointment	86 parts.
Precipitated sulphur	10 "
Siliceous earth	4 "

And by day:

℞ Resorcin	2 to 5 parts.
Glycerin	1 part.
Orange-flower water	20 parts.
Alcohol	80 "

Or by night:

℞ Benzoinated zinc ointment	80 parts.
Resorcin	10 "
Siliceous earth	10 "

And by day:

℞ Corrosive sublimate	0.05 to 0.2 part.
Glycerin	1 "
Orange flower water	20 parts.
Alcohol	80 "

After the acne is pretty well overcome by these means, it is well for some time to use a resorcin paste, or a resorcin-sublimate-spirituous solution, or simply sublimate soap.—*N. Y. Med. Jour.*, April 21, 1888.

HYPODERMATICS OF ARSENIC IN CHOREA.—Make a mixture of equal parts of Fowler's solution and distilled water. Begin by injecting *one* drop into the subcutaneous cellular tissue, and increase the quantity one drop a day until eight or ten drops are being injected, when the quantity is reduced one drop a day. If necessary repeat.—*Gazette Med. de Montreal*, January, 1888.

CORNUTIN.—LEONIDAS LEWITZSKI (*Inaug. Diss.*, St. Petersburg, 1887) after a number of experiments, concludes that Kobart's cornutin is one of the most certain means (when administered by the mouth) of causing contractions of both the pregnant and non-pregnant human uterus, and is especially useful in hæmorrhage after abortion, and in menorrhagia from chronic metritis.—*Centralbl. für Gynäk.* No. 8, 1888.

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THE EDITOR OF THIS JOURNAL would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the writer's full name and address, although not necessarily to be published. All communications in regard to editorial work should be addressed to the Editor.

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SATURDAY, MAY 5, 1888.

TRANSACTIONS OF THE NINTH INTERNATIONAL MEDICAL CONGRESS.

The first two, and perhaps three, volumes of the Transactions, will be ready for issue at the Cincinnati meeting of the American Medical Association, to such members of the Congress as shall notify the Chairman of the local Committee of Arrangements, Dr. W. W. Dawson, of their desire to receive them at that time and place. To insure delivery notice must be immediately given.

JOHN B. HAMILTON,
Late Secretary-General.

PUERPERAL MASTITIS.

Not the least significant outgrowth of the Semmelweiss doctrine of puerperal fever is presented in modern views as to the causation and prevention of puerperal mastitis. Olshausen[1] has given at a recent date an uncommonly clear and concise summary of the more important facts in connection with this subject. In the following note, free use is made of this essay, not only on account of its authoritative source, but also because it is adequately representative of the state of our present knowledge.

Every case of puerperal mastitis is due to infection. Now, it is necessary to distinguish between the physiological turgescence of the mammæ and parenchymatous inflammation. The former occurs usually on the second or third day of the puerperium, and is characterized by symmetrical enlargement and rotundity of the organs, while the latter commences during the second or third week—seldom earlier than the sixth day—and begins in a circumscribed spot. This proposition shuts out at once from consideration the operation of such agents as retention or impeded flow of milk, exposure to cold, mental disturbance and the like, as primary factors. We are all of us familiar with the important rôle formerly assigned these agents in the etiology of mammary abscess. Indeed, traces enough of this erroneous and pernicious belief may still be found in many of our best text-books. Investigation proves that infection may occur through two channels: through the lumina of the milk ducts and through abrasions, cracks or fissures of the nipple. Experience and clinical observation teach that the former is the more frequent mode of infection. Escherich and Bumm have demonstrated the presence of pathogenous bacteria in the milk before any inflammation of the gland was noticeable. The invasion consists, as a rule, of staphylococcus. Cohn found a peculiar streptococcus in cases of non-suppurative, parenchymatous mastitis. When the infection takes place directly through nipple lesion, the *materia peccans* gains access to the connective tissue spaces and phlegmonous mastitis is the typical result. Streptococcus pyogenes is the potent microörganism under these conditions.

While retention or impeded flow of milk is not a primary etiological factor, either certainly may play an important adjuvant part. Under the influence of the bacteria, the secretion is decomposed, loses its alkaline reaction, and free acids—lactic and butyric—are developed. Galactostasis favors in this manner the settlement of bacteria.

Kucher aptly says: "The chapter on prevention is the crowning glory of Semmelweiss' theory," and so it is in the case of the modern doctrine of puerperal mastitis. Prophylactic measures are simple, intelligible and entirely efficient.

The nipples must be carefully cleansed every day during the latter weeks of pregnancy with some antiseptic fluid, such as a saturated solution of boracic acid or alcohol, and then they must be protected from contact with the clothing by sterilized gauze.

During lactation, they must be similarly cleansed and protected after each nursing. The child's mouth must also be kept perfectly clean. Lesions of the nipple, which the preliminary treatment during pregnancy will largely prevent, must be observed

[1] Deutsche Medicinische Wochenschrift, No. 14, 1888. Schroeder's Lehrbuch der Geburtshülfe, 10 Auflage von Olshausen und J. Veit.

as soon as they appear. They demand at once strict antiseptic treatment.

The same absolutely antiseptic condition of the fingers of the attendant is requisite when the nipples are handled, as when any operation in connection with genito-urinary apparatus of the puerperal woman is undertaken. Much the same responsibility attaches to the physician and the nurse with reference to mammary abscess, as in the case of puerperal fever. That is the physician and the nurse, provided the care of the patient has been completely in their hands, are responsible theoretically for the unfortunate accident. Either they have neglected to institute the precautions, plainly indicated, or they have themselves infected nipples. This is not at all a pleasant doctrine for the practitioner, but is a very wholesome one for the patient.

When mastitis actually begins, the child must be removed from the affected breast immediately, and not at a time when the inflammation has already attained considerable proportions. "When this precaution is neglected," writes Olshausen, "or when it is not observed within the first twenty-four hours after the chill, which almost always characterizes the beginning of the disease, suppuration almost always follows. If the child is at once removed from the affected breast, in three-fourths, or more, of the cases, the mastitis will be cut short." In addition to the cessation of functional activity, the breast ought to be suspended, an ice-bag applied, and a purgative exhibited.

Olshausen has observed that when the fever continues longer than thirty-six hours, suppuration almost invariably results. This limit seems to us too brief, as certain cases of undoubted parenchymatous mastitis have come under our observation, in which resolutions has occurred even when the fever lasted as long as forty-eight or even seventy-two hours.

W. W. J.

TWO NEW TEREBINTHINATES.

The revival of interest in the terebinthinates of late has resulted in the extensive use of terebine in bronchial affections. DR. PROSSER JAMES has recently called attention, in the *Lancet*, March 10, 1888, to two other allied products, and more particularly to their use in diseases of the respiratory mucous tract. These are the essential oil of the mountain pine, and hydrate of terpin.

The *Mountain Pine*, *Mugho*, or Pinus pumilio of Lambert, is the tree from which exudes the Hungarian balsam, once so highly prized. By distilling the young branches with water a volatile oil is obtained, which has been known for a long time as "oleum templinum" or "Krummolzöl," and is the most potent agent in the so-called "pine-cure" of Reichenhall and other German spas. As the vapor of the water escapes into the inhalation rooms it is medicated with the volatile oil. By an improved process and apparatus, and care in selecting the material, a much finer product is now obtained—a very pure essential oil, oleum pini pumilionis, which has been imported into England under the name *pumiline*. It has the odor of the most fragrant variety of the pine, and is less irritating than other fir oils. When sprinkled or sprayed about a sick-room, says Dr. James, it imparts a lasting and grateful fragrance to the air, which is not oppressive, and seems to be disinfectant; or it may be thrown into a little warm water and allowed to evaporate; or it may be diffused by a steam inhaler, or a hand-ball atomizer.

This oil can be taken internally, and is admirable for inhalation. When prolonged inhalation is desired a few drops may be put in a suitable respirator, and patients frequently prefer it to other inhalants. For short steam inhalations from 10 to 20 drops may be put into any common inhaler half full of water at 150° to 160° F., and the vapor inhaled; but it is better to diffuse the oil through water by magnesia, powdered silex, or prepared talc in the proportion of 40 to 60 minims of oil to 20 grains of magnesia and 1 ounce of water. One teaspoonful of this mixture added to 8 ounces of cold water is stirred in the inhaler, and when 8 ounces of boiling water are added a convenient temperature is obtained; as it cools a little more boiling water is added, if it be desired to prolong the inhalation. This is milder than the B. P. vapor olei pini sylvestris, and may be used when that is too irritating. "It is a very mild stimulant to the mucous membrane, and an agreeable remedy for inhalation in relaxation, congestion and chronic catarrhal affections of the respiratory tract. Oleum pini pumilionis is also an excellent addition to other inhalations, such as creasote and various essential oils. It disguises the disagreeable odor of some and imparts its own fragrance to others." Dr. James has used it to disguise the smell of iodoform, but the mixture should be freshly prepared, as after a few days decomposition takes place with the liberation of free iodine. The oil mixes well with eucalyptol and other inhalants.

For internal use the dose of the oleum pini pumilionis is from 1 to 5 minims, and small doses may be taken in lozenges or on a lump of sugar, just as terebine is often taken, or a tragacanth mixture may be

made, or larger doses may be given in capsules. When taken internally the drug acts as a carminative. It is easily and quickly absorbed, and in the blood and tissues probably behaves like other terebinthinates. "It is its action on the bronchial membrane during excretion that renders it valuable in disease of this surface, being a stimulant, expectorant, and disinfectant, hence indicated in chronic bronchitis, dilatation of bronchi, bronchorrhœa, some states of phthisis, and other affections. The effect on the kidneys, however, should not be forgotten. The violet odor of the urine is produced as with some other terebinthinates, and small doses seem diuretic, but its use in diseases of the urinary passages manifestly requires care." It may be used *externally* sprinkled on flannel, or on spongio-piline. It is said to be a cleanly, prompt, and useful stimulant and counter-irritant, and sometimes appears to have slight anæsthetic properties.

The second terebinthinate, *terpin hydrate*, is very different from the oleum pini pumilionis. It has no odor, but little taste, is rather insoluble, and is solid. When crystallized spontaneously from a mixture of turpentine and water it appears as small needles, or it may be obtained in large rhombic crystals by allowing 3 parts of alcohol, 4 of turpentine, and 1 of nitric acid to stand in shallow dishes for 3 or 4 days. It is only sparingly soluble in cold water or tupentine, but more soluble in hot-water, alcohol and ether; on account of its slight solubility it is best given in pill or wafer. It may be dissolved in warm glycerin, and then an equal quantity of some syrup may be added, which makes a suitable linctus. From 16 to 24 grains to 1 ounce gives 2 to 3 grains to the teaspoonfull, a dose that can be taken every 3 or 4 hours. Small doses, such as the above, should be used at first, since they are often sufficient for the bronchial affection, and may affect the kidneys, for large doses given to animals have caused hæmaturia. The effects of terpin hydrate are similar to those of other terebinthinates, and it is useful sometimes as a substitute for them on account of being tasteless and odorless.

It restrains the cough and secretion of bronchitis, stimulating the bronchial membrane to healthier action, and Germain Sée has found full doses restrain the copious sputa of some cases of phthisis, and had no case of gastric disturbance after long use of the drug, though others have been less fortunate. In some cases small doses seem to increase the bronchial secretion. It has been used successfully in hæmoptysis, and in some cases it is mildly diuretic. Its alleged hypnotic property is probably due to the rapid relief to the cough. W. G. E.

RELATION OF SCROFULOUS GLAND DISEASE TO OTHER FORMS OF TUBERCULOSIS.

Mr. Frederick S. Eve has recently published a series of experiments (in the *British Medical Journal*, of April 14, 1888) undertaken for the purpose of determining the relation of scrofulous gland disease to other forms of tuberculosis. It will be remembered that some experiments by M. S. Arloing appeared to prove that inoculation with material from scrofulous glands was innocuous to rabbits, while it produced general tuberculosis in guinea pigs. From his experiments he inferred that either scrofula and tuberculosis were nearly allied affections, but caused by different agents, or they were derived from a single virus, of which the activity was modified in the scrofulous form.

Mr. Eve's experiments were made with small fragments of the glands prepared with sterilized instruments, "and the possibility of infection of the animals with true tuberculosis was negatived by the precautions taken." In his experiments the inoculations uniformly caused tuberculosis. While he shows that the virus of strumous gland disease produces visceral tuberculosis in rabbits as well as in guinea-pigs, he admits that the disease in rabbits is not so acute and rapidly fatal as that following inoculation with acute miliary tubercle. "The difference is one of degree, not of a kind permitting us to infer, with Arloing, that struma is a specialized form of the tuberculous virus. We must therefore fall back on another explanation of the clinically innocent course of strumous gland disease; and we find it probably in the locality or soil in which the virus is implanted. Taking cervical gland disease, if the virus is not inherited from a consumptive or strumous parent, it may be surmised that the common bacillus of phthisis is implanted in the lymph follicles of the pharynx or tonsils, in one of the adjoining mucous membranes on the skin, and is carried direct to the glands. These, acting as filters, arrest its progress permanently, except in some cases in which suppuration and ulceration take place, when the surrounding textures may become implicated, and general dissemination ensue. The malignancy of the virus may be somewhat attenuated under the local influence of the lymph-cells and leucocytes in the gland, but to admit that the virus producing the disease is *ab initio* specialized, would be to infer that the strumous disease could only be produced by the virus of struma, and no other." Mr. Eve emphasizes the objections to the terms "scrofula" and "struma" for lesions resembling tuberculosis. The evidence that tends to connect strumous gland disease more

closely with general tuberculous affections should encourage the practice of early operation, whenever possible, with the view of completely eradicating the disease. W. G. E.

THE MONUMENT FUND IN HONOR OF DR. BENJAMIN RUSH.

Two years since the American Medical Association adopted resolutions in favor of having a suitable monument erected in Washington to the memory of Dr. Benjamin Rush, of Philadelphia, who died in 1813. Preëminent as a physician, a medical teacher and writer, a tried patriot and statesman, actively participating in the struggle that gave birth to the Nation and one of the distinguished signers of the Declaration of Independence of 1776, and an example of the purity of private and social life; no other name could have been chosen that would so appropriately represent the medical profession on an enduring monument among the many that adorn the parks and lawns of our National capital.

A Committee was appointed to receive subscriptions for the purpose in sums of one dollar and upwards, from members of the profession in every part of the country. It was ascertained that the contribution of the small sum of $1 by each active practitioner of medicine in the United States would aggregate a sum amply sufficient for the purpose intended; and it was thought that very few members of the profession would hesitate an hour before sending their mite after the way had been prepared for them to do so. Dr. A. L. Gihon, U. S. N., was made Chairman of the Committee; Dr. G. H. Rohé, of Baltimore, Secretary; and Dr. J. M. Toner, of Washington, Treasurer.

The report of the Treasurer at the last annual meeting of the American Medical Association showed only a fair beginning in the receipt of contributions, and we have received intimations recently that much less progress has been made since that meeting than the Committe had reason to expect. This is not so much from reluctance to give the $1, as it is neglect to enclose the amount in a note and mail it to the address of the Treasurer of the Committee or to any one of the sub-treasurers appointed in the several States. This is illustrated by what recently took place at the annual meeting of the California State Medical Society when, after Dr. Gihon had briefly directed the attention of the Society to the subject, every member present, numbering 106, cheerfully contributed his $1 at once. If the subject was properly presented at any regular meeting, with some one present authorized to receive the money, an equally ready response would be obtained in every regular medical Society in the country. We earnestly invite the immediate attention, not only of the members of organized medical societies, but of every member of the profession, and ask them to contribute their mite to so worthy an object without delay.

EDITORIAL NOTES.

LECTURES ON INEBRIETY.—Dr. T. D. Crothers, of Hartford, Conn., is to deliver a course of lectures on "Inebriety as a Disease and its Medical Jurisprudence," before the medical students of the University of Vermont at Burlington, May 21, 22 and 23, 1888. This is the second course of lectures on this important subject delivered to medical classes in this country, and indicates progress in the right direction.

UNIQUE REMOVAL OF THE UTERUS.—DR. B. B. BROWNE, of Baltimore, applied a saturated solution of chloride of zinc to a cancerous uterus by means of a tampon which was held in place by absorbent cotton. Below the cotton he placed a second tampon which was saturated with bicarb. soda and glycerin. On the seventh day the tampons were removed, and on the tenth day the uterus in its entirety sloughed and came away. The specimen was exhibited before the Clinical Society of Maryland.

DR. D. HAYES AGNEW'S FIFTIETH ANNIVERSARY.—On the occasion of Dr. Agnew's fiftieth anniversary in the profession recently a reception was given him by a number of professional men in Philadelphia. On April 23 the alumni and students of the Medical Department of the University of Pennsylvania gave him a reception. At the coming Commencement of the University of Pennsylvania its highest academic honors will be conferred upon the distinguished surgeon and teacher.

DEATH OF DR. J. FORD PRIOLEAU.—Dr. J. Ford Prioleau, of Charleston, S. C., died at the residence of his son in Beaufort, on Wednesday, April 11, aged 62. He was born in Charleston, and was graduated from the Medical College of the State of South Carolina in 1847. Since 1871 he has been Professor of Obstetrics, and since 1881 Dean of this College. He was a member of the American Medical Association.

THE INDEX MEDICUS.—The generous publisher of this most valuable periodical has sent out a circular stating that the *Index* is not self-supporting. It is not too much to ask that every medical society in the country will subscribe for at least one copy. It is

unquestionably the most valuable medical periodical published in the world, and is indispensable to a literary worker.

PORRO OPERATION IN QUEENSLAND.—MR. H. C. GARDE, Surgeon to the Maryborough Hospital, Queensland, reports, in the *Australian Medical Gazette*, March, 1888, a successful Porro operation for rachitic pelvis, 1.5 inch antero-posterior diameter, on a woman 23 years old, primipara. The stump was treated in the abdominal wound. The child, a son, survived.

THE ITALIAN SOCIETY OF HYGIENE will hold its second congress in Brescia, on September 1, 2, and 3, 1888. There will be an exhibition of publications on hygienic and allied subjects, of hygienic instruments, apparatus, and appliance, and of chemical and pharmaceutical products related to hygiene.

DR. HERMANN KRAUSE, Privat-docent in the University of Berlin, who has been in attendance on the Emperor of Germany, has been made Professor of Laryngology.

THE ROCKY MOUNTAIN MEDICAL ASSOCIATION will hold its annual meeting on Wednesday evening, May 9, in the parlor of the Burnett House, Cincinnati, at 8 o'clock.

DR. AUGUST VON ROTHMUND, Professor of Ophthalmology in the University of Munich, celebrated his 25th anniversary as a teacher on March 20.

AN INTERNATIONAL EXPOSITION OF HYGIENE and Life Saving and Preserving Apparatus will be opened in Ostend on June 3.

DEATHS OF FOREIGN MEDICAL MEN.—DR. ROBERT DE LATOUR, of St. Cloud, on April 4, aged 86. Dr. Nikolai Ritter, of St. Petersburg.

ASSOCIATION ITEMS.

THIRTY-NINTH ANNUAL MEETING.

To be held in Cincinnati, Ohio, May 8, 9, 10 and 11, 1888.

PRESIDENT, A. Y. P. GARNETT, M.D.,
of Washington, D. C.

PAPERS AND DISCUSSIONS.

The following additional titles of papers to be read at the approaching meeting have been received since the programme was published in the issues of THE JOURNAL for April 7, 14, 21 and 28:

Section on Dermatology and Syphilography.

"The Galvanic Current as a means of Inducing the Penetration of Parisiticide Remedies to the Inaccessible Parts, as Hair Follicles, etc.;" "Report of an Unusual Case of Nervous Pigmentosus, with Illustration;" "Report of a Case of Tinea Favosa of the Forearm, with Illustration," by Henry J. Reynolds, Chicago.

Section on Surgery and Anatomy.

"A New Method of Treatment of Diseases of the Urethra Bladder, Uterus, and Rectum, Dry Medication, Dry Syringe. Illustrated." By Elmer Lee, St Louis.

Railway Arrangements.

MONON ROUTE.—Those unable to go by the special train of the Monon Route on Monday night may go on any day train on Saturday, Sunday, or Tuesday. See advertisement on page 8.

PAN HANDLE ROUTE.—Attention is called to the advertisement of the Pan Handle Route on page 9 of this issue of THE JOURNAL. The Pan Handle is the pioneer through car line to Cincinnati, and is a portion of the Pennsylvania lines west of Pittsburgh, which should be a sufficient guarantee that any one patronizing the Pan Handle will have a pleasant and comfortable trip to Cincinnati.

THE KANKAKEE LINE.—This popular and direct line has made arrangements to run trains for the meeting of the Association at Cincinnati. The times of departure and arrival are as follows: Leave Chicago 9.10 A.M., arrive at Cincinnati 7.15 P.M.; leave Chicago at 8 P.M., arrive at Cincinnati 7.30 A.M. Parlor cars on day trains, Pullman Sleepers and Reclining Chairs on night trains. This is the only line from Chicago entering the Grand Central Depot at Cincinnati, which is situated in the heart of the city, and in the immediate vicinity of the hotels and business centre. Rates of fare same as on other lines. For further information call at city ticket office, 121 Randolph Street, Chicago, or address J. C. Tucker, General N. W. Pass. Agent.

SOCIETY PROCEEDINGS.

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

Ninetieth Annual Session, held at Baltimore, April 24, 25 and 26, 1888.

TUESDAY, APRIL 24—FIRST DAY.

The Medical and Chirurgical Faculty of Maryland convened for its ninetieth annual session in the hall of the Faculty, Tuesday, April 24th, at 12.30 P.M., the President, DR. I. E. ATKINSON, in the Chair, and Drs. G. L. Taneyhill and Robert T. Wilson, Secretaries.

The *President's Address* was then made, on the subject of

MEDICAL CHARITIES.

He began by speaking of the evil effects of indis-

criminate alms-giving and poor relief, and its tendency to pauperize the recipients. Much of such charity does a small fraction of good, but intensifies the very evils that it is intended to arrest. Fortunately there are many with wealth, kindliness of heart, clearness of brain, and energy of hand, who realize that the bestowal of alms is not always true charity, that assistance to the unworthy may prove unjust to the deserving and meritricious to the recipient. A large class also does good by distributing the bounty of others. The outcome of all such united efforts at systematic charity resulted in the formation, in several cities, of Charity Organization Societies. They have done immense benefit to the the deserving poor. It may be profitable to consider the administration of medical charity—a subject worthy of attention, and not trite. Generally those who stand most in need of assistance are those whose misfortunes are the more or less imminent results of their own actions. Two classes receive charitable relief: (1) Those who from disease, age or infirmity are made to work for a livelihood; and (2) those who, suffering from neither of the disabling causes mentioned, live in idleness. All in the first class need help, and not all in the second class should be excluded. Able-bodied paupers exist now since the days of strikes. The well and healthy laborer may find, as a result of his toil, enough compensation to supply his daily wants, but when sickness appears he appeals to charity for support. In 1872 London, with four million inhabitants, treated gratuitously at the various hospitals and dispensaries about 1,100,000 sick; 58,382 as in-patients, and 1,083,674 as out-patients, and in this year £994,388 were contributed to this object; that is three persons in every ten of London received medical charity in 1872. The stress of work on the medical attendant in these dispensaries is so great that in one hospital (St. Bartholomew's) dispensary 120 patients were seen and dismissed in 70 minutes; that is 35 seconds for each patient. Pauperism often begins in this way. Patients able to pay are daily seen in our dispensaries and hospitals. The competition of medical schools for clinical material, and the desire of medical men for clinical experience, encourages pauperism. The "Provident Dispensary Plan," started by Smith, of Southam, England, in 1837, has not been the success it should be. In 1874 there were only 11 such dispensaries in London. The B. & O. R. R. Relief Association is a good example of an excellent organization for medical relief. In all such institutions membership must be compulsory. The American laborer and poor man is less willing to go to hospital in this country than in England. Our hospital arrangements are defective and their equipment and management inadequate. In New York there are 3502 public free beds, and 1418 private free beds, while in Baltimore there are only 868 free beds, of which 365 are in the almshouse. Organized charity would soon weed out the undeserving cases, and the saving would more than compensate for the expense of investigation by paid officers of the society. District nursing would largely increase the amount of good which the medical man does. Even the Johns Hopkins Hospital, with 120 free beds, cannot fulfill all the requirements of this community. We should work toward the perfection of our medical charity, and strive for improvement in the future.

DR. CHRISTOPHER JOHNSTON, SR., as Chairman of the Section on Surgery, then read a paper on

TETANUS AND ERYSIPELAS.

The great cavities of the body are boldly visited by the surgeon both for cure and diagnosis. Laparotomy has passed through many different stages, and Sänger's operation is now performed at the right time with good results. Two young surgeons in the city have recently done it. Diagnosis, pathology, and the means of cure march hand in hand. Brain surgery is enlightened through the discoveries of physiology and pahthology. Tetanus and erysipelas are described both as idiopathic and traumatic. Most writers believe now that the disease cannot originate *de novo*. Cold and damp seem to have much to do with the causation of tetanus, but a causative injury cannot always be found. Gross says it is a peculiar affection of the nerves. The dualists believe in the two forms, and the unicist in the single form of tetanus. Nicolaier and Flügge believe in the bacillus of tetanus as a cause, but think that other agencies, such as damp and cold, help. Verneuil is a dualist. Certain localities seem to favor it. There is a tetanic district near Baltimore, and one on Long Island. Experiments made with the soil of these districts have not been convincing. It is infectious, and may be conveyed from man to rabbit, and from rabbit to rabbit. Some veterinary surgeons have had a succession of cases after operation for castration, and this was evidently due to infected instruments, which can retain the *materies morbi* for a long time. Those who have much to do with horses seem to be more exposed than others. Rosenbach also discovered a microbe, and Brieger several ptomaines called *toxines*. In erysipelas there is little doubt as to its causation by a microbe. Fehleisen has done the best work here.

DR. ROBERT W. JOHNSON made a supplementary report on

THE TREATMENT OF THE SAC IN HERNIA.

After dwelling on the danger of hernia and its important place in surgery, he gave a short historical sketch of the early manner of operation. Some think that if a truss can be comfortably worn in non-strangulated hernia, an operation is not justifiable. He thought there were times when an operation should be performed to cause a radical cure, for, as in the case of a sailor at sea, a broken truss would give much pain and do immense harm. The three kinds of cases are:

1. Those under easy control of the truss.
2. Those not so.
3. Strangulated cases, about the contents of whose sacs there is doubt.

If a truss be worn it should be fitted carefully by the physician.

DR. J. EDWIN MICHAEL called attention to the importance of making the operation radical, and the

fact that there was not so much risk of an operation for non-strangulated hernia if done carefully. The patient should be instructed before of this risk. He used silver sutures, and did not find that they cut the tissue.

Dr. J. W. Chambers had done three such operations of late, and had little rise of temperature in one case. He used catgut.

Wednesday, April 25—Second Day.

The *Annual Address* was then delivered by Dr. Richard Gundry, Superintendent of the Maryland Hospital for the Insane. He announced as his subject,

SOME PROBLEMS IN MENTAL ACTION.

In a scholarly and chaste address he traced the various causes of insanity. There are three causes to which it is referable, inheritance, environment and personality. Each of these influences was considered at some length. As methods of prophylaxis and treatment he urged the importance of manual training as a means of mental diversion and training. Those predisposed to insanity, he asserted, should early be taught the lesson of self-control. The inhibitory power of physical exercise may be seen in various ways. A noisy, blasphemous boy was quiet all the week while at work, was noisy on Sunday until made to work on that day when he became quiet. The inebriate, the vicious can all be reclaimed by methods of substitution provided they themselves seize the idea and do not let it slip away.

Character may be largely formed by circumstances but our own desires have much to do with shaping these circumstances.

Dr. P. C. Williams, Chairman of the Section on Practice of Medicine made the following report. He called attention of the Faculty to several important points.

1. We should recognize the meeting of the International Medical Congress held at Washington last year as and event in the medical history of the world and of our country.

2. Several clinical points are of great interest.

a. The peculiar epidemic of measles in Baltimore this year. It was widespread, severe, showed unusual nervous symptoms, and unusually high temperature at a late period of the disease with no inflammatory trouble in the lungs and few cases of secondary pneumonia.

Extreme mortality and gradual increase of cases of measles in Baltimore during the past winter. From October to March, included, there were 149 deaths from measles, beginning with 3 in October and ending with 49 in March. A serious result for a disease usually considered trivial.

b. Prevalence and mortality of pneumonia in Baltimore. From October to March, included, there were 485 deaths from pneumonia in Baltimore, beginning with 33 in October and ending with 133 in March. There were many cases among the young. Before 45 single pneumonia is not usually considered dangerous. It is a question whether it is an inflammatory or contagious disease.

c. There has been a great prevalence of serous diarrhœa, apparently due to climatic changes and not to bad water.

d. Fifteen years ago he read a paper on the use of yellow jessamine in supra-orbital neuralgia. Believes it now almost a specific, next to ergot, in cerebral congestion. The tincture is used, and a stronger tincture is used than usual. He stops it when ptosis appears.

Dr. George J. Preston then made a supplementary report on the subject of

PERICÆCAL INFLAMMATION.

After speaking of the ease of opening the peritoneal cavity without danger, he said that the terms perityphlitis, perityphlitis and appendicitis were cumbersome and probably not correct, as it was doubtful if one occurred alone in man. The best division is into 1. Typhlitis stercoralis; 2. Perityphlitis; 3. Appendicitis. After reviewing the anatomy he said that appendicitis was not easily recognized during life. He enumerated the number of objects found in the cæcum. The symptomatology is quite distinct. It is not easy to speak of its duration. Occasionally the sac ruptures, and again it sometimes takes on a chronic form. After speaking of the etiology, he said that cases of perityphlitis and typhoid fever were not seldom confused. The prognosis of simple typhlitis is good if all obstruction be removed. Sulphate of magnesia is dangerous with inflammation. An operation should be avoided, but pus should be evacuated, and the evacuating needle as an aid to diagnosis is not so dangerous as was supposed. He cited two cases from his own practice, in one of which an operation was performed with good results.

Dr. William B. Canfield, in referring to Dr. Williams' paper, spoke of the part which intemperance played in the large mortality from pneumonia among the younger adults, and also of the contagious element of the disease, as well as its inflammatory nature.

Dr. Joseph T. Smith spoke of bad and unfiltered water as causing diarrhœa.

Dr. P. C. Williams replied that intemperance increased the mortality of all diseases. About 70 per cent. in hospital die of diseases in which intemperance played an important part. In the first quarter of 1887 there were 199 deaths from pneumonia in Baltimore, and in the first quarter of 1888, 335 deaths. He believed in the inflammatory theory.

Dr. Wm. Rickert approved of recognizing the International Medical Congress. He thought that climate had much to do with the causation of pneumonia, diarrhœa and dysentery. He thought that supra-orbital neuralgia was a symptom and not a disease.

Dr. Richard Gundry recalled treatment by bleeding. He thinks little of treatment, but prefers small doses frequently repeated. He fully believes that diarrhœa and dysentery are due to climatic changes.

Dr. L. E. Neale then read a paper comparing

CÆSAREAN SECTION AND CRANIOTOMY ON THE LIVING CHILD.

After reciting two cases he proceeded to mention

the best possible treatment of contracted pelvis by

1. Removal of the uterine appendages before conception occurs.

2. Induction of premature labor at a period of extra-uterine fœtal viability.

After speaking of delivery by version forceps and other means in contracted pelves, he said the last resort was Cæsarean section, or craniotomy. Craniotomy destroys one-half of the human lives at stake, while Sänger's operation as now performed saves almost all mothers and children. He does not believe that pelvimetry on the living subject at term is always sufficiently accurate to be a guide, for we have no means of measuring the head of the unborn child. It does not seem as if, the natural passages being 2½ inches conjugate, the line of natural delivery should be drawn there. Craniotomy does not seem right when death is certain for the child, while Cæsarean section gives them both a chance.

DR. J. H. BRANHAM thought too little was said about the mortality to the child. The operation should be done at the time of election, and this is not at full term.

DR. GEO. W. MILTENBERGER said that a week or two before full term was an equally favorable time. The uterus was just as capable of contracting, and it had no effect on the mortality of the child.

DR. J. H. BRANHAM thought that a week or two earlier made a great difference in the viability of the child; he also thought that we could judge of the arrival of full term by the cervix.

DR. GEO. W. MULTENBERGER did not agree with Dr. Branham at all. In a large proportion of primipara, children are delivered one or two weeks before the time with no harm to mother or child. It was not possible to make such hair-splitting distinctions in the condition of the cervix.

DR. WILMER BRINTON thought that more stress should have been laid on pelvimetry, and the result would decide as to craniotomy or Cæsarean section. He did not think that foreign statistics of operation could apply to this country.

DR. L. E. NEALE, in conclusion, said that he operated as near full term as it was possible to find. He does practice pelvimetry, but it does not always seem free from difficulties.

THURSDAY, APRIL 26—THIRD DAY.

DR. GEORGE H. ROHÉ, Chairman of the Section on Sanitary Science, read a paper on

RESTRICTION OF CONTAGIOUS AND INFECTIOUS DISEASES.

Of the deaths in Baltimore during the past five years, 43.2 per cent. were due to infectious diseases, in which are included pneumonia, consumption and diarrhœa. Many of the diseases may be prevented by sanitary measures. Diseases are imported and domestic. There are many defects in quarantine in Baltimore. There are three ways of preventing diseases, by

1. Compulsory notification of contagious diseases.

2. Isolation.

3. Prompt disinfection.

1. The physician should report such diseases and should be paid for it by the Government.

2. Isolation is very important, whether in hospital or private houses.

3. Disinfection may be effectually carried out by mercuric chloride (1–500), chloride of lime, 6 ozs. to 1 gallon, and a solution of the hypochlorite of sodium. Soluble phenyl is also excellent.

DR. JOHN MORRIS read a paper on

UNSANITARY AGENTS IN COMMON USE.

This included trees, ice-boxes, refrigerators and filters. He pointed out the dangers of too many trees about a country house and enumerated the healthy and dangerous trees and their soils. He spoke of the danger of preserving foods, etc., in ice-boxes, and the advantages of using refrigerators through which there passed a current of cool, dry air, laden with the vapor of the chloride of sodium and permanganate of potash. He referred to impure drinking-water and to the fallacies in many filters.

DR. JOHN S. CONRAD, in referring to Dr. Rohé's paper, thought that quarantine should be under the control of the Government as a part of the U. S. Marine Service. Different degrees of strictness at different ports did harm to commerce. Crowding in quarantine sometimes spreads disease. He felt doubtful about the decided germ destroying power of all the remedies mentioned.

DR. JOHN MORRIS referred to three recent cases of small-pox in Baltimore and the efficiency of the city Board of Health in preventing the spread of this disease. He did not think physicians should think of taking pay for such noble work.

DR. WILLIAM B. CANFIELD said he had arrived at the port of Baltimore from Europe in 1886, and, although there was a case of small-pox on board, there was a delay of about fifteen minutes only at quarantine, and all landed. A few weeks later small-pox broke out in a Western town, and it was traced to this steamer.

DR. GEORGE H. ROHÉ could bring evidence of the efficacy of the disinfectants mentioned by him. He thought householders objected to reporting cases of infectious diseases on account of the inconvenience and expense of disinfecting. The Government should do this.

DR. THOMAS S. LATIMER read a paper on

REFLEXES,

in which he referred to the fact that reflexes were rarely absent in health, and often absent or exaggerated in certain diseases. He thought their study had grown in importance since the elaborate work of Lombard.

DR. JOHN S. CONRAD read a paper entitled

HALLUCINATION, AND ITS ALLIED STATES,

in which he ably discussed hallucinations, delusions, illusions in the sane and insane.

DR. WILLIAM B. CANFIELD read a paper on

THE MICROSCOPICAL EXAMINATION OF URINARY SEDIMENT,

in which he dwelt more particularly upon blood, pus,

epithelium and casts in all their varieties, not omitting the details of the technique of searching for sediment.

Dr. Samuel Theobald read a paper on

THE INFLUENCE WHICH THE DISCOVERY OF COCAINE HAS EXERTED UPON OPHTHALMIC SURGERY,

in which he referred to its advantage in cataract, squint, and other operations on the eye, and as rendering more bearable applications of strong astringents in granular lids.

Dr. W. R. Monroe then read a paper on

OXYGEN AS A THERAPEUTIC AGENT.

He reviewed the advantages of the use of oxygen in different diseases, and advocated its more general use by the regular profession.

Dr. Charles G. Hill read a paper on

ALCOHOL IN ITS RELATION TO INEBRIETY.

After considering the number of drunkards in this country and the fact that 20 per cent. of all cases of insanity could be traced to inebriety, he treated the subject of alcohol as a food and as a narcotic, and then discussed the different diseases caused by inebriety and the necessity of physicians paying more attention to guarding against this in their practice.

Dr. Whitfield Winsey read a paper on *Some Thoughts on Blood-letting*, in which he advocated the revival of this mode of treatment.

Dr. Charles O'Donovan, Jr., read a paper on *A Case of Urethral Stricture with Severe and Unusual Complications.*

Dr. Henry Salzer read a paper on *Dietetics in Febrile Conditions*

Dr. J. H. Branham one on *Excision of the Larynx, with a case.*

Dr. J. H. DeWolf one on *Urgent Needs of the Medical Profession.*

The following were elected

OFFICERS FOR 1888–89.

President—Dr. John Morris.
Vice-Presidents—Dr. J. Edwin Michael, Dr. Thos. B. Evans.
Recording Secretary—Dr. G. Lane Taneyhill.
Assistant Secretary—Dr. Robert T. Wilson.
Corresponding Secretary—Dr. Jos. T. Smith.
Reporting Secretary—Dr. William B. Canfield.
Treasurer— Dr. W. F. A. Kemp.

CHICAGO MEDICO-LEGAL SOCIETY.

Meeting of March 3, 1888.

E. J. Doering, M.D., President.

Dr. L. L. McArthur read a paper on

THE MEDICO-LEGAL ASPECT OF POTT'S FRACTURE.

(See p. 553.)

Dr. John E. Owens: I am glad this subject has been brought before the Society. So far as my own practice goes I never trust myself, in the treatment of a fracture of this kind, with any other than the long splint to which the author of the paper has just called your attention. The splint is technically Dupuytren's splint, the leg being protected with a wedge-shaped piece, the thick portion of the wedge being below and reaching to a point just above the inner malleolus, serving for a fulcrum. The portion of the splint which extends a few inches below the sole of the foot is not necessarily padded; it may be covered with some thin cotton, the foot being bound to the lowest portion by a bandage or adhesive plaster. The plaster of Paris treatment is one which I think has surprised more doctors in general practice and surgeons in their special practice of surgery than any other one splint that has been brought to bear upon Pott's fracture, or analogous injuries, like fracture of the fibula itself, without other complication. In reference to the point that the inner malleolus is broken in Pott's fracture, I have seen as well-marked cases of deformity without any fracture whatever of this portion of the tibia as could possibly have occurred with such a complication. So I think that, while this is often a complication of the fracture under discussion, it is not so in the majority of cases. I remember that about twelve or fifteen years ago a case came to Rush College clinic with great deformity. Prof. Gunn said nothing before the patient that would create trouble between her and her medical attendant, but after she left the room he explained fully the defect in treatment which induced the result. He suggested, in this case, cutting down upon the fibula, dividing it, and bringing the bones into their proper relation to the tibia. The reason the deformity exists is because the broken fragments are closely approximated to the outer surface of the tibia, and having united there it is impossible, without some operation, to remedy it. The operation was not performed at that time, but it is one that is well worth thinking of. It is quite practical and I think would remedy some, at least, of the deformities. The rupture of the internal lateral ligament is perhaps the worst feature in Pott's fracture, as union is usually defective.

Dr. E. W. Andrews: I differ from the last speaker in one matter: I should advise every practitioner who handles surgical cases never to allow himself to diagnose a fracture by an inference from tenderness, or absence of fracture by absence of tenderness. One who practices surgery and treats fractures must, for self-preservation, in every case make a positive diagnosis. I should never treat a fracture where I could not obtain authority to anæsthetize the patient if I thought best, and make an examination so thorough as to satisfy myself whether the bone was broken.

The uncertainty in terminology which the reader has referred to, in Pott's fracture, as having caused many physicians to employ a looseness of expression, runs through the books also. Several of the standard works on surgery speak of Pott's fracture, with or without fracture of the inner malleolus.

The author says the medico-legal aspect of the case will depend largely upon the physician's treatment. We all wish it could be so, but the medico-legal aspects of the case are quite different from the purely medical ones, and I should say they depend upon about three things: careful prognosis, good wit-

nesses and careful records. In the first place the medico-legal aspects may depend upon the nature of the prognosis which you have given to the patient, as this will largely influence him in his desire to bring the matter to trial. It is often suggested to the paient that the doctor has been incompetent or negligent in his treatment when he is disappointed at the results of a fracture. He has not obtained the same result which some friend has obtained. Too often the doctor has not given an absolutely correct prognosis, inasmuch as no one can promise a good result from any fracture. The physician may expect a good result and may so promise to the patient, but if he is wise he will not do so; he will not fail to let the patient know in the case of *any* fracture the many possibilities of bad results that hang about the case—of non-union, of an anchylosis. I think we are justified in putting the worst before the patient, not with the idea of winning any greater credit for ourselves, but as a matter of protection. Secondly, I think the medico-legal aspect of the question will depend not alone upon the physician's skill in treatment, but upon his ability to summon witnesses when it comes to trial. Every physician who treats a case of fracture, easy or difficult, whether he thinks it is sure to result well or not, should have his witnesses. Most physicians, in handling such a serious matter as a fracture, do have witnesses. They require assistants, and it is seldom any one attempts to set a fracture without having some one else by, but there are times when you are tempted to do so, and my advice is, never do it. As Mr. Punch said to those about to marry, "Don't." You will find that your ability to bring witnesses will deter lawyers from bringing suits against you, and the facilities they may have for finding out that you have not witnesses will enable them to push claims for blackmail. In the third place I would say, be careful of your records. Records should include the details of your examination and diagnosis, the date of the occurrence and also the names of witnesses present. In this way you can fortify yourself. In these records should be preserved the letters you have received in regard to the case. The patient may be sent from your hands to another physician, and, if you send letters, keep a copy of them. You may have received letters in return stating that the patient arrived in a certain condition. These and all similar papers should be preserved; they may be worth thousands of dollars to you any time for about two years, after which I believe, in Illinois, the statute of limitations protects you.

DR. CLARK GAPEN: I do not know of anything to add to this discussion unless it would be to reiterate the care with regard to which records should be kept. I have noticed the moral influence of this upon an adversary time and again. I came face to face with a case of that kind about three years ago, in which, when the fact was presented to our adversary that the most thorough and careful records of the case had been kept from the beginning, the entire suit was abandoned. Bacon says that "Writing makes an exact man," and one who gets in the habit of writing acquires that habit of exactitude that is a warning, at least, to one's adversary.

DR. L. L. MCARTHUR: I am aware that, in presenting this paper, it was necessary to dwell considerably upon the technical points of the case in question, and in doing so it naturally gave to the paper rather a more surgical than a legal aspect, but I trusted to the development of legal questions.

The suggestion of Dr. Andrews that the proper name be given to the fracture, and his emphasis of the fact that all simple fractures of the fibula are not to be included as Pott's fracture, I think a good one.

I am glad to learn, simply as a matter of valuable information, that in the State of Illinois books and treatises on surgery and medicine are not matters of evidence.

That the interosseous ligament which binds the lower fragment of the fibula to the tibia exists and that it is of about the dimensions Dr. Hoadley mentioned, I, of course, am ready to admit; it is a self-evident proposition. But that the ligament situated at the point at which the fulcrum acts prevents rocking of the lower fragment after fracture has occurred, with its attendant laceration, I decidedly object to. I emphasize this point, as my attention was called to it by Dr. Micuricz as a simple way of diagnosticating fracture of the lower portion of the fibula; it is not so easy when the fracture is above the middle of fibula.

DR. J. H. ETHERIDGE read a paper on

THE MEDICO-LEGAL ASPECT OF UTTERANCES MADE IN MEDICAL SOCIETIES.

A few months ago the retiring President of the Chicago Gynecological Society delivered the customary address upon relinquishing his office to his successor. In that address he advocated the extremest antiseptic treatment of parturient patients. He took the ground that disasters after delivery arose from micro-organisms gaining access to the uterine cavity and there producing larvæ. Hence the attending physician must see to it that all possible measures are taken to prevent the entrance of micro-organisms into the vagina and uterus of the lying-in patient. To this end he must wash his hands in an antiseptic fluid and destroy the micro-organisms thereon, and thus avoid conveying them into the vagina. He must render thoroughly antiseptic all instruments used in the process of delivery. The lower part of the parturient canal must be rendered thoroughly antiseptic. He must make few, if any, vaginal examinations.

At another meeting of the Chicago Gynecological Society the discussion of puerperal infection was continued. The doctrine of Semmelweiss, first enunciated in 1847, that puerperal fever is caused by a poison introduced into the genital tract from without, was accepted by some of the Fellows *in toto*. The carrier of the poison is the hand of the physician or nurse, or some of the appliances used by them in the course of the labor or soon afterwards, as obstetrical instruments, sponges, syringes, etc. The pith of the discussion was enunciated by one speaker in these words: "*The belief that every case of puerperal fever arises from the absorption of decomposing organic matter from lesions of the genital tract, and that the materies peccans is introduced from without, throws a tre-*

mendous weight of responsibility on the physician and nurse. Provided the patient has been surrendered entirely to their control, and she becomes the subject of puerperal fever, one or the other, or both, have directly infected her. The atmosphere, as a bearer of infection, may be excluded in the majority of cases."

In response to these assertions I raised the question of the medico-legal bearing of such teachings, and asked the speaker, if he were called upon as an expert witness in a case of alleged malpractice wherein the usual course of managing a case of labor had obtained, and puerperal fever had killed the patient subsequently, and he were asked the question, "Do you consider the practitioner responsible for that woman's death?" what his reply would be? His reply was: "*If the physician's fingers were the only objects that had come in contact with the genital tract of the woman, and if he had not observed the precautions already mentioned, and if the atmosphere, as a bearer of infection, could be excluded, it would be consistent with the facts in the case that the physician infected the woman.*"

As a practical bearing of this subject I desire to state that I received a letter from a physician in an Eastern town, after the publication of the discussion in question, wherein he gave an instance of the medico-legal interest of this subject: A man, whose wife had recently died of puerperal fever, took the initial steps of bringing a malpractice suit against the attending physician. He was incited thereto by a conscienceless Ishmaelite in the local medical profession, who assured him that he could win his case on the strength of opinions and articles published in the current medical literature.

Dr. James H. Etheridge (oral continuation of paper): You may go through the whole of therapeutics and you will find that very little is absolutely settled in regard to the treatment of diseases. An attempt is being made at the present time, by believers in the micro-organism theory of causation of puerperal fever, to establish in the range of fixed subjects that of puerperal infection, but it seems to me we should be slow to accept this. The Semmelweiss theory is subject to many fallacies; like an overcoat, it is convenient to put on and to take off. When a patient gets puerperal fever, and we find there has been unclean attendance on her, we may come to the conclusion that she has died from infection, but we will find a great many cases where this explanation will hardly answer, cases that have been taken care of in the most careful manner. We may, without using instruments or making a vaginal examination, determine the position of the child by external manipulation, and yet have puerperal fever follow. There the Semmelweiss theory does not suit our convenience. We all know of, or have seen, cases time and again, where women have been taken care of by incompetent midwives or slovenly physicians, and yet these women do not take on the puerperal infection. The most dreadful obstetrical operations have been done and yet the women go straight along without any rise of temperature. I know the allegation is made that not all instances of exposure to puerperal infection will work, simply because there is an amount of so-called physiological resistance to bacterial influence, and in that way the patient escapes. That is a convenient loophole. We know that if we have an abrasion upon the finger, we are extremely careful to avoid any infection while dressing wounds, showing that in such emergencies we have a constant and persistent belief in the theory of infection.

By the advocates of the Semmelweiss theory, the physician is directed, before attending to a lying-in patient, to wash his hands thoroughly with soap and a 2 per cent. solution of carbolic acid, but he wipes his hands upon a towel that is in the room while they are exposed to the atmosphere of the room. According to the advocates of the germ theory the atmosphere is loaded with micro-organisms, hence his cleanliness is not perfect. If he wish to be perfectly aseptic he should slide his hands up out of a bowl of carbolized water into the vagina. Between the time of the antiseptic hand-washing and the time of making a vaginal examination as commonly carried out, there is an abundance of time to acquire three or four layers of micro-organisms from the air on the obstetrician's hands. Right here I would like to make a quotation from Dr. Merriman. While this subject was under discussion at a meeting of the Chicago Gynecological Society in July last, Dr. Merriman made the following remarks, and I think they should be included in every discussion of the Semmelweiss theory of puerperal infection:

"It strikes me that the vagina itself is not a very clean place in the majority of women, and that there is as much liability to sepsis from the vagina itself as from the physician's hand or finger. I should very much dislike to take a sponge or anything that contained a portion of the fluid of a woman in labor and bring it in contact with a wound where I wanted to guard against sepsis and against poisoning. I should be very much afraid to take any of that vaginal fluid and bring it in contact with the wound in an ovariotomy, or to make a vaginal examination and then proceed at once to the operation. Supposing I passed my disinfected finger into the vagina and then, without any new disinfection, proceeded to an ovariotomy, I should expect trouble. It strikes me we have more danger from an unclean vagina than from the hands of the physician. I do not imagine that in the majority of instances the finger of the physician is such a contaminating source of trouble as is claimed. If this is the case, if it is all brought in from the outside, we ought to insist that there shall be no sheet used on the patient, no garment brought about the bed, no old quilt or anything of that kind placed in contact with her that has not been just washed and disinfected, and we should insist upon it that at the beginning of labor the vagina should be thoroughly disinfected by being douched with a corrosive solution, in order to prevent this danger of contamination to the patient."

One other point: We are instructed by antiseptic directions in regard to the management of the vagina previous to labor, to have it thoroughly antiseptisized by chloride injections, and consequently the poor vagina is douched. If after such an antiseptic injection we could take out the vagina and examine it, I think we would find that not more than one-third

of its surface had been touched by this fluid. We know that with a bivalve or trivalve speculum we can hardly spread the vagina until we get a tense and shining appearance of its surface. How is it possible to bathe all of the vaginal surface by douching in the ordinary way? How long will it be before the Semmelweiss theory will be modified or before something better will take its place? We find all the way through medicine and surgery that theories are taken up and abandoned. An instance in chemistry will answer the purpose of illustration. A few years ago it was a great point for chemists to be able to give a test for artificial bitters introduced into beers. A gentleman named Allen, the author of "Allen's Comparative Analysis," said that all bitter principles of beer could be precipitated by using a certain preparation of lead, a solution of the sub-acetate. He wrote upon this and it went out in the journals and books and was looked upon as authoritative; it was something tangible, it could be weighed, seen, felt, in this way they could test for aloes, quassia and the different bitter principles that the original hop has failed to give in large quantities. In those days Professor Allen was an authority on such subjects. Suits were lost or won on his testi. mony. But this same gentleman subsequently abandoned that idea and said it was still possible to get a bitter taste, after using this test, and that he was unable to dissolve out, with the sub-acetate of lead, all the bitters. Let us suppose that somebody had gone into the courts and brought suit against one of those great manufactures of malt liquors for adulterating his malt liquors in the old country; he would have won without a question. Another interesting point which shows how accepted theories have a strong hold upon the world, is the subject of fermentation. It was taught for a long time that fermentation was caused through the means of contact with oxygen. Liebig first brought this out, and it was unquestioningly taught in the medical books. Oxygen was the only thing necessary to fermentation. The scientific world, for years, considered that point settled. Along came Pasteur who made chemical experiments, und found that oxygen from the chlorate of potassium would not produce fermentation, and that led to the question, is there oxygen and oxygen? His investigation of fermentation went on still further, while he was working on his germ theory of disease, and he made, finally, an important discovery which revolutionized the theory, viz., it was not oxygen, but microorganism that caused fermentation. Nay, furthermore, he demonstrated that we can get fermentation without oxygen. In the range of surgery there are a great many theories accepted and abandoned from time to time. Not many years ago the man who opened the abdomen without having a spray of carbolic acid playing upon it, was guilty of criminal neglect. We have all been in hospitals where we have seen preparations made for a large spray to be thrown on the operator and the patient; it was looked upon as a *sine qua non* in all surgical operations. In opening an abscess it was directed that it be covered with gauze, a bistoury slipped under it and used in order that the abscess might not be exposed to the air. This was what was taught by Lister. He regarded it as being absolutely indispensable that there must be no uncovering of the wound in any way lest the microörganism got in there. So with iodoform, nobody thought we could treat a wound without covering it with iodoform. Five years ago the Parisian surgeons all used iodoform lavishly in surgical dressings. Wounds were so buried in this drug that they were invisible. To-day not one of them uses iodoform in surgical dressings. And so with antiseptic precautions generally, the belief existed only a few years ago that any one who opened the abdomen must undergo the most careful preparation of the hands; instruments should be washed in a 95 per cent. solution of carbolic acid, then thrown into a 2 per cent. solution during the operation, and in this way the carbolic acid must be kept constantly in contact with the instruments. To go into one of these operating rooms of an advanced gynecologist was almost like going into a museum, it was very interesting, and the scientific accuracy with which everything was done was astonishing. Now we go to the other extreme. I know a gentleman who avers that he has done laparotomies for years, without the slightest antiseptic drug precaution, because he does not believe in killing microörganisms with antiseptic drugs; all that he uses is cleanliness. The antiseptic man will say that this is antisepsis in another form. Admitted, but will he kindly explain why the terrible, death dealing microörganisms so constantly in the air and undestroyed by stinking drugs do not destroy this gentleman's patients?

Only a short time ago, carbolic acid and iodoform were regarded as reliable bacteriacides. To-day, iodoform, it is claimed, is not a *reliable* destroyer of germs—hence, it is going out of use as a germicide. Carbolic acid, some one now claims, is so defective in germicidal properties that microörganisms gambol sportively in its solutions. These points are mentioned as being illustrative of the complete changes that medical opinions so often undergo in a few years. Here is the Semmelweiss theory now claiming our consideration. It is so firmly believed in, that at least one young man is willing to swear, on the witness stand as an obstetrical expert, that a death from puerperal fever can be laid at that door of the attending physician! Let this theory depend on an alleged microörganism that no one has seen, excepting Pastuer, who *thinks* that he once saw it, and all other possible causes, which are certainly fully as rational are coughed down and ignored. It is so possible to have, a few years hence, another, and perhaps, a better, an unassailably demonstrable theory of the causation of puerperal fever, that I am astonished that anyone can utter such words as were quoted early in my remarks, while the Semmelweiss theory is so valuable.

This closes what I have to say. It was simply to introduce this subject. I have brought it before the society, and it seems to me that until we have theories and treatment of cases that are reliable and accurate, and beyond attack, the utterances I have quoted from the Gynecological Society of Chicago,

should be thoughtfully gone over before being given to the public. Just as sure as we live, if we endorse such utterances as these, we are going to have, in the next few years, a great many malpractice suits brought to our doors. In ten years, assertions of the kind I have quoted to-night will be laughed at rather than endorsed by the profession of this city.

Dr. C. T. Parks: I did not expect to say a word upon this question. I certainly am strongly an advocate of the principle of not making positive assertions on any ground, certainly not on this ground of puerperal fever which always has been a source of annoyance to the profession, and never has been thoroughly understood or the cause of it explained. Personal experience is about the only thing I can depend upon. I go upon the general principle that there is no man who practices medicine, but does so with a desire for his own good and the good of his patient. I do not think there is any man but will attempt to have a clean patient, and a clean person as far as he can; true, there are some who do not seem to go very far. Those who do not make an attempt to take care of the patient and themselves are blameless in the matter, I believe. In my experience, I have seen cases of puerperal fever follow, notwithstanding the fact that the utmost care has been given by conscientious physicians who were thoroughly posted in antiseptic treatment, and the care of patients in every way, and of themselves. A few days ago a case of this kind happened in the practice of a gentleman who is well-known in this society, and who for several years has exercised the greatest care in using antiseptic treatment, even going so far as to use not only large quantities of douches but as well large external dressings. But notwithstanding all this care with reference to his patient, the nurse and himself, the patient got puerperal fever and died inside of ten days of acute peritonitis. In that case the infection did not come from the doctor nor the nurse, and if it came at all, it was from the decomposing detritus of the patient's body.

Dr. D. A. K. Steele: I have nothing special to say on this subject, only to agree with what Professor Parkes has said, that we should not be too hasty in putting forth dogmatic assertions in this matter. I am as firm a believer in the germ theory as any one, and yet every once in a while cases come up that puzzle us, cases such as referred to by Dr. Parkes, where it is difficult to trace the relation between cause and effect. On the other hand, some of us who have practiced for years, before antiseptics were thought so much of as to-day, have never had a case of puerperal fever occur in our obstetrical practice, so that the Semmelweiss theory seems sometimes not to explain these cases; they don't all seem to be due to infection from without—from the nurse or the doctor. But when we see a physician who is careless and slovenly, who will go from a case of erysipelas to a lying-in woman, and following that the woman is taken with puerperal septicæmia, the relation seems so direct that we say it lies at the door of the doctor. Such a case has come under my observation during the last month, where it could be traced to an infectious disease communicated to the lying-in woman by the physician, and yet I would be very careful in laying down an absolute law or making an absolute statement; I would hesitate to go into court in a case as clear as that and say absolutely that this doctor was responsible for the woman's death. There may have been some factors other than that having a direct bearing on the case.

Dr. J. C. Hoag: I feel a little reluctant to speak on this subject, and yet feel that I ought to do so, as a portion of the discussion in the Chicago Gynecological Society was upon a paper which I wrote, but which I did not hear discussed. I think such remarks as Dr. Steele has made are worthy of all commendation, the point being this, that no matter what our views may be, so far as public expression is given to them they should be free from dogmatism. I entirely concur, for the most part, in such expressions as Dr. Earle has frequently given utterance to. I think that Dr. Etheridge, in his paper, has not by any means expressed the true condition of affairs. I think the germ theory of disease is no longer a matter of theory, but an established fact, in its principal relations, at least. If we are to find fault with hasty or ill-considered utterances on this subject we will presently be getting back to such conditions as obtained not alone in obstetrics, but the whole field of surgery, eighteen years ago, the time when Lister made his wonderful discoveries. To my mind the proof of the pudding is in the eating; those who advocate the germ theory of disease and follow out its logical teachings are the safe surgeons and obstetricians. That puerperal fever was one of the most destructive of all diseases is proved by the Berlin Commission who reported some years ago that the deaths from puerperal fever exceeded those from cholera and small-pox combined. The most wonderful progress has been made by those who do believe in the germ theory of disease.

In regard to the methods of prevention there is a difference of opinion; some in their zeal wish to use the most powerful antiseptic agents, and some do not believe that they are at all necessary. My own opinion in the matter is that, for the most part, the vagina is to be regarded as practically in an aseptic condition. That germs are present there is no possible doubt, because they can be found at any time by a little investigation, but that they are very infrequently the source of puerperal infection is quite as certain; witness the result of labor cases that are left entirely to nature. It has been proven again and again that where women are left entirely alone they get along without any septic infection. In the Vienna Hospital it has been often noticed, and in Semmelweiss' time, that patients who gave birth to their children on the street and were brought into the hospital escaped infection and were often the only ones who did so. I remember of seeing, a few days ago, a reference to the statement of Credé that he did not believe in making vaginal examinations. At the time I wrote my paper in which I expressed myself as favorable to limiting the practice of making vaginal examinations, I had seen no reference to this. Every now and then an epidemic will break out, and the

source of infection can usually be traced to some careless student or physician, and I must say that in Vienna they trace most of these to Americans. It has happened that little epidemics have started up there directly traceable to examinations made by American physicians.

So far as my own treatment of these cases goes, I regard the patient in an aseptic condition and only liable to develop the poison from poison brought to her from without. There is no doubt that we can make out position by external palpation, but that this will entirely supersede the vaginal examination I do not believe. The matter of vaginal douches has been carried to too great an extent; I believe the vagina before labor and during parturition is in an aseptic condition unless something is brought to it from without, that following labor there is no special indication for douches.

Dr. Etheridge has expressed his admiration for Dr. Merriman's remarks. For my part, I should like to see such expressions as Credé's given the widest publication.

There are so many things to be said on this subject that I scarcely know where to begin or stop, but I cannot find in my own mind too much praise for those men who have brought this matter prominently to the front; and while some of us may make statements that seem too dogmatic and would perhaps stand a little modification, yet I think such plans of treatment as suggested by these men are the safer ones to follow.

DR. C. W. EARLE: I did not know that the honor had been assigned to me of being the chief advocate of the Semmelweiss doctrine. However, if it is accredited to me I accept it and thank you for the compliment. I am exceedingly sorry that Dr. Etheridge has taken us back and given about the same argument that must have been given 45 years ago, when the illustrious Semmelweiss, in the face of ridicule and scorn advanced his new ideas regarding puerperal fever. If it is true, as it was stated in the Gynecological Society some weeks ago, that certain remarks regarding the responsibility of doctors and nurses as carriers of contagion should not be made public, I hope for the credit of this Society that many of the remarks made against the Semmelweiss doctrine will never be given publicity. We have been carried back—far back among the antiquities. I suppose that Dr. Etheridge refers to some remarks that were made in the course of which it was stated that in the majority of cases puerperal infection comes from some source *without*. Now, it is not denied by those who urge this most strongly that there are occasional cases where it comes from within, at least it is impossible to explain some cases on any other hypothesis. While a great deal has been done by those who advocate this doctrine to bring it almost to perfection, it is not claimed that perfection has been reached, but that much has been done to prolong life and prevent deaths from puerperal diseases. I am very sure that the time has come when just such discussions as we are now having are needed, even if some of us do believe in advanced ideas not yet fully received by a large majority of the profession. It is to influence those who do not believe, those who have never attended a case of labor with clean hands, that it is necessary for us to take extreme ground in this matter to prevent a dreadful mortality.

In making examinations for life insurance, in one company I find over 17 per cent. of the applicants whose mothers have died from puerperal fever. In another company the mortality was over 12 per cent. In Semmelweiss' time the mortality was from 15 to 20 per cent., and in Lombardy, one year, every woman confined, died. Is it strange that Semelweiss exclaimed that it was time that this murderous mortality was stopped? It has been stopped in a very large degree by antiseptic precautions, and while some methods that were tried in early years have been found to be useless, other methods have come up to supercede them. The matter of spraying, which I have never used or ordered, but which I would use if I believed the air particularly infected, has come in for its share of abuse. Lister stated to me several months since when I said to him "Some of my countrymen say that you have departed from your original ideas of antiseptics in that you discard the spray." "You may say," he said, "if you honor me by mentioning my name in connection with antiseptic methods, that we have discarded nothing. We have stopped doing certain things because we have found other methods which are better." There is nothing in Lister's practice or sayings which demonstrates that he has departed at all from his antiseptic methods. It is by carrying out these methods that the mortality has been brought down from the terrible percentage it had several years ago. I believe, and am conscientious in the belief, that if we could bring the entire medical profession up to a fair standard of antiseptic obstetrics we would do more to prolong life and save more people than are saved in all other departments of surgery and medicine. Not many of us are called upon to do laparotomies and hip-joint amputations, but almost everybody must attend cases of labor, and I maintain that we can reduce a mortality which has exceeded 10 or 20 per cent. down to 1 per cent. by these methods. I think it is quite probable that puerperal fever may come from an old suppurating point somewhere, which is lighted up afresh by the process of parturition. It is probably possible that infection may come through the respiratory or digestive passages, but in the majority of cases it is heterogenitic, and if everybody will go to cases of labor with clean hands, will employ clean nurses, and see that the atmosphere of the room is not tainted, he will bring the mortality down to almost nothing. A few months ago Lawson Tait visited the hospital of Tarnier, who exhibited to him a chart on which was recorded the mortality for many years past. A reduction in deaths from 12 or 15 per cent. to less than 1 per cent. was demonstrated. How was it done? By carrrying out antiseptic methods. He divides the whole period into three stages: The stage of inaction, with a mortality of 15, 16, and 17 per cent.; the stage of hygiene against infection and contagion, with a mortality of 4 to 6 per cent.; the stage of antiseptics, with a mortality of less than 1 per cent. It

is worth while to imitate it. We cannot, probably, bring it to perfection in private practice, but we can come so near it that the lives of hundreds will be saved.

In conclusion, I have only to add, that it appears to me that the time is coming when one will not have used ordinary care, skill or judgment in obstetrical practice unless the usual (to say the least) antiseptic methods have been employed.

(*To be concluded.*)

STATE MEDICINE.

Action by Missouri State Medical Association regarding National Quarantine and State Sanitary Affairs.

The special committee appointed to consider and report on the suggestions and recommendations of the President's Address at the recent meeting of the Missouri State Medical Association, reported through their chairman, Dr. H. C. Dalton, of St. Louis, the following resolutions, which were unanimously adopted:

WHEREAS, The experience of the past has shown that existing means relied upon for the protection of the people of the United States against the introduction of dangerous epidemic diseases from abroad are entirely inadequate to accomplish the desired object; and

WHEREAS, It being highly desirable, in order to insure such protection, that the measures employed shall be uniformly and systematically applied; therefore,

Resolved, 1. That, in the opinion of this Association, external quarantine measures should be under the control and direction of Federal authority to afford the highest degree of protection to the people of this country.

2. That this Association favor Congressional action looking to this end, as, in their judgment, there is present urgency for such legislation.

3. That copies of these resolutions be promptly forwarded by the Secretary to the Members and Senators of this State in Congress.

Also the following were passed unanimously:

WHEREAS, Recognizing the importance and value to the people of this State of a body clothed with official authority and provided with adequate financial means to enforce existing laws for the protection of the public against disease, the prevention of epidemics, and the furtherance of all wise measures designed to secure the sanitary welfare of the people of this State; therefore

Resolved, 1. That, reposing confidence in the wisdom, patriotism and ability of the State Board of Health as displayed in the midst of adverse circumstances, this Association approve the course and conduct of the Board, and pledge to its support in its work the influence and authority of this body.

2. That the members of this Association pledge themselves to actively exert their influence in their respective localities, during the coming year, in favor of legislative action in support of the Board, and to enlighten their representatives in the General Assembly regarding the wishes of the Association in this respect.

3. That a special committee of three members on sanitary affairs be appointed by the President, with power to sit during the ensuing year, and advise with the Board in all matters concerning needed legislation for the more perfect protection of the public against disease.

Dr. F. J. Lutz, of St. Louis, Dr. J. E. Tefft, of Springfield, and Dr. B. G. Dysart, of Paris, were appointed members of the committee created in the last resolution.

DOMESTIC CORRESPONDENCE

DR. CUSHING AND THE MURDOCK LIQUID FOOD HOSPITAL.

Dear Sir:—Your correspondent, W., in his letter published in THE JOURNAL of April 21, has fallen into certain errors concerning me which I desire to correct. In regard to my correspondence with the Chairman of the Committee on Ethics and Discipline of the Massachusetts Medical Society, your correspondent absolutely perverts the meaning of the letter of the Secretary of that Committee, recently published, and mentioned by W.

Mr. Murdock, in referring to my correspondence with the committee, copies of which he enclosed with his letter to the *Boston Medical and Surgical Journal*, naturally fell into the technical error of supposing that my letter, addressed to the Chairman of that Committee as such, and answered by him, had necessarily been before the Committee officially. According to the aforesaid letter of the Secretary of the Committee, it appears that this was not the case, and that the letter of the Chairman of the Committee to me is to be considered as representing the opinions of himself, and of the other members of the Committee therein named, personally and unofficially. In either case the result was and is the same for me. The correspondence was in 1886, when, before becoming surgeon of the Murdock Hospital, I took sound and prudent advice, and put on record with the proper authority a statement of my proposed relations and position in the hospital. Neither my friends nor myself have seen any reason to be dissatisfied with my relations there since that time. I think that in common fairness you should publish the correspondence in question, copies of which you have already.

Although I do not know that the irrelevant assertions of your correspondent, W., concerning the *Annals of Gynecology*, of which I am editor, have any public interest, I may add that they are entirely erroneous and contrary to fact.

As your chatty correspondent does not publish his name, I have to conjecture the source of his inspiration from the animus legible between the lines of his letter.

Since, probably by accident, the letter has been

sent you just before the annual meeting of the Association, at which I hold a position in one of the Sections, I would beg you to insert this also before the meeting. Very respectfully,

E. W. CUSHING.

Boston, April 23, 1888.

BOOK REVIEWS.

THE PRESCRIPTION, Therapeutically, Pharmaceutically, and Grammatically considered. By OTTO A. WALL, M.D., Ph. G., Professor of Pharmacy in the Missouri Medical College, etc. 8vo, pp. 184. St. Louis: Aug. Gast Bank Note and Litho. Co., 1888.

Every one will agree with the author that a theoretical and practical knowledge of the construction of the prescription is of great importance to both physician and pharmacist. Dr. Wall seems to have gone more thoroughly into the subject than any previous writer. In regard to weights and measures he is particularly full and explicit, 36 pages of the book being devoted to this subject.

We cannot agree with the author, however, when he says: "It is wrong, for instance, to write 0.2 centigram, because many readers accustomed to using the metric system, would be apt to overlook the word centigram and read the above as 0 2 gram, which it would be if the figures stood alone without any designation. The above should be written 0.002 gram, or 2 milligrams;" or when he says: "Fractions of these values (centigrams and milligrams) should be expressed in prescriptions in common fractions, and not in decimal fractions, thus ½ milligram, and not 0.5 milligram; ¼ centigram, or 2½ milligram, and not 0.25 centigram." In writing prescriptions to be filled by a druggist not entirely familiar with the decimal system it may be safer to write as the author suggests, but the other method is still correct. It is a serious question whether the world and literature would not be better off if common fractions were consigned to oblivion. The mixing of common fractions in the metric system is about as bad as using dollars, shillings, kopeks, and pfennige in the same bill. Germany tried to improve on the metric system and failed; the system, as it stands, is better than any other, and no so-called improvement that has been suggested has any particular merit. As regards the mistaking of 0.2 centigram for 0.2 gram, it may be said that error is practically impossible if we write 0.2 centig.

But Dr. Wall has written a good book on prescriptions, and one that we can highly recommend.

MISCELLANEOUS.

VITAL STATISTICS IN ILLINOIS.—The report of the meeting of the Illinois State Board of Health, held on April 19 and 20, says: For the first time since the collection of vital statistics was begun all the counties have made returns of births and deaths. These, which are for the year 1887, show a general improvement and increased fullness. A total of 32,164 deaths and a total of 62,337 births are reported for the whole State, being an increase of 2,762 death returns and 3,144 birth returns, as compared with the returns of the previous year. While there is noted this general improvement, a few counties still show a laxity of interest and consequent comparative imperfection of returns.

"THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS" was formed at Buffalo on April 19, it is said with a membership of 34. It will meet in Washington on September 18–20, 1888.

DETECTION OF DAMPNESS IN WALLS.—J. Nessler says, in the *Chemiker Zeitung*, that a sheet of gelatine placed against a wall suspected of being damp will curl away from the wall if dampness exists.

A SANITARY CONFERENCE AT SPRINGFIELD, ILL., will be held at an early date. It will be attended by health authorities of cities, towns and villages of Illinois to promote local sanitation.

DR. EDWARD G. LORING, the well-known ophthalmologist, died suddenly in New York City on Monday, April 23. He was about 51 years of age.

ILLEGAL PRACTICE IN NEW JERSEY.—The Essex County Medical Society has begun to take measures against the illegal practitioners of Newark, N. J.

BOARDS OF HEALTH IN OHIO.—By a new law in Ohio a board of health is to be established in every city or village containing more than 500 inhabitants.

THE NEBRASKA STATE MEDICAL SOCIETY will meet in Lincoln early in June. The exact date has not been fixed.

THE MICHIGAN COLLEGE OF MEDICINE AND SURGERY is a new college recently established in Detroit.

THE IOWA STATE MEDICAL SOCIETY will meet at Iowa City on May 15.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM APRIL 21, 1888, TO APRIL 27, 1888.

Lieut.-Col. Jos. C. Baily, Asst. Medical Purveyor, granted leave of absence for twenty days on surgeon's certificate of disability, with permission to apply for an extension. S. O. 92, A. G. O., April 21, 1888.

Lieut.-Col. J. C. Baily, Asst. Medical Purveyor, will transfer the public funds for which he is responsible, and the charge of the medical purveying depot in New York City, temporarily, to Capt. Henry Johnson, Medical Storekeeper. S. O. 92, A. G. O., April 21, 1888.

Par. 13, S. O. 89, A. G. O., April 18, is revoked by par. 1, S. O. 93, A. G. O., April 23, and Major Geo. M. Sternberg, Surgeon U. S. Army, is directed to proceed to the Island of Cuba for the purpose named in the letter of the President addressed to the Secretary of War on the 17th inst. Upon the completion of this duty will return to his proper station, and submit his report to the President on or before June 25, 1888.

Major R. S. Vickery, Surgeon, granted leave of absence for four months, with permission to apply for an extension of two months and to go beyond sea. S. O. 95, A. G. O., April 25, 1888.

The operation of par. 17 S. O. 79 c. s., A. G. O. (so much thereof as relates to Capt. Geo. E. Bushnell, Asst. Surgeon U. S. Army), is suspended until May 1, 1888. S. O. 90, A. G. O., April 19, 1888.

First Lieut. Leonard Wood, Asst. Surgeon, granted one month's leave of absence, with permission to apply for an extension of two months. S. O. 41, Dept. Ariz., April 18, 1888.

First Lieut. Chas. L. G. Anderson, Asst. Surgeon, granted one month's leave of absence from June 1, 1888. Resignation accepted by the President, to take effect July 1, 1888. S. O. 92, A. G. O., April 21, 1888.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, DURING THE WEEK ENDING APRIL 28, 1888.

Medical Inspector A. S. Oberly, granted six months' leave, with permission to visit Europe.